ESTABLISHED IN 1872

PAPER TRADE JOURNAL

With Which Is Combined

PAPER

Vol. XCVI, No. 6 — Thursday, February 9, 1933

Paper Awards for Government Are Announced

Joint Congressional Committee on Printing Meets Wednesday and Lets Bids for Furnishing Large Variety of Paper for Use of the Public Printer for the Term of One Year Beginning March 1, 1933—Awards Are Made to the Lowest Bidders Except in the Case of Five Comparatively Small Lots

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., February 8, 1933.—The Joint Congressional Committee on Printing met Wednesday morning of this week and made awards on the annual bids which were opened Monday, January 30 for supplying the Government Printing Office with paper for the year beginning March 1, 1933. The awards are usually made the Monday following the opening of the bids, but it was impossible to follow this procedure this year because of the Coolidge Memorial which was held on Monday of this week. The bids were not opened on Tuesday because there was no quorum of the Committee.

The awards in all cases were made to the lowest bidders, except in the case of Lot No. 255 which called for 5,000 pounds of colored blotting paper (manufacturer's stock shade), buff and salmon, flat, 19 x 24 inches, 160 pounds, in wrapped bundles of 250 or 500 sheets. Minimum order 4,000 pounds; which because of irregularities in the bid was awarded to the R. P. Andrews Paper Company, the second lowest bidder on the list, at 4.06 cents.

Lot No. 367 which called for 70,000 pounds of binders board, hard rolled, best quality; flat, to trim 20 x 30 inches, and 22 x 28 inches, Nos. 18, 20, 25, 30, 35, 40 and 45; and on which three bidders made an identical bid of 4 cents, was awarded to the Barton, Duer & Koch Paper Company.

All bids were rejected on Lots Nos. 276, 277 and 363. The list of bidders, with the prices submitted, was printed in the issue of the PAPER TRADE JOURNAL of February 2.

Sues on Cellophane Patents

Alleging infringement of moistureproof Cellophane patents, the Du Pont Cellophane Company has filed suit against the Sylvania Industrial Corporation in the United States District Court for the Eastern District of Virginia, at Richmond. The manufacturing plant of the defendant is located at Fredericksburg, Va.

The bill of complaint alleges infringement of patents covering moistureproof material, moistureproof composition, apparatus for coating and method of coating, which include letters patent 1,737,187, 1,826,696, 1,826,697, 1,826,698, and 1,826,699, all of which relate to the manufacture of moistureproof Cellophane.

The allegations set forth that the Du Pont Cellophane Company has expended large sums of money in developing the inventions covered by the patents and in introducing to the public transparent moistureproof wrapping material and that the company is able to supply demand for the product.

It is pointed out that the material has been of enormous value to the public through having vastly improved the method of packaging such products as cigars, cigarettes, crackers, candies, nuts, fruits and foodstuffs, and articles of all description. This, it is asserted, has effected very large savings to the manufacturer of such articles and to the public, in the method of packaging, in the cost of package, and in the preservation of the materials or articles wrapped in the moistureproof sheets.

It is further alleged that the defendant, well knowing the plaintiff's rights in the matter, has been and still is making and selling transparent moistureproof sheets of wrapping material embodying the inventions claimed in the patents.

It is also alleged that the Sylvania Industrial Corporation has continued to infringe the patents of the plaintiff, despite the fact that notice of the infringement had been given and it had been requested to cease.

The bill of complaint is signed by L. A. Yerkes, president of the Du Pont Cellophane Company, Inc.; J. Gordon Bohannan, of Petersburg, Va., solicitor for the plaintiff; and William S. Pritchard, C. H. Biesterfeld and Hugh M. Morris, of counsel for the plaintiff.

Suit on the same patents was filed early in 1932 against the Sylvania Industrial Corporation of Delaware by the Du Pont Cellophane Company, Inc. Subsequently the Delaware corporation was dissolved and the defendant reincorporated in Virginia. Its manufacturing plant is located at Fredericksburg, Va.

Halifax Pulp Co. Elects Officers

At the annual meeting of the Halifax Power and Pulp Company, Ltd., held at its Albany, N. Y. Office, the following officers were elected: D. Francis Dougherty, president; Ledyard Cogswell, Jr., vice president; Donald G. Kibbey, treasurer; Isadore Bookstein, secretary.

Rhinelander Paper Co. Has Satisfactory Year

Annual Report of Manager N. F. Becker Shows Company In Exceptionally Strong Position—Despite Adverse General and Competitive Conditions Company Experienced Successful Year of Operations—All Directors and Officers Re-Elected by Stockholders

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., February 6, 1933—Although faced with adverse general and competitive conditions, the Rhinelander Paper Company, Rhinelander, Wis., experienced a successful year of operations in 1932, according to the annual report of N. F. Becker, manager, submitted at the yearly meeting of stockholders last week. The report showed the company to be in an exceptionally strong position, and one of the strongest in the field. The management was given a vote of thanks "for the skillful handling of the company's business during the past year." A resolution of condolence was adopted in the death of R. C. Merryman, of Pasadena, Cal., one of the prominent stockholders.

All of the directors and officers were re-elected as follows: President, E. O. Brown; vice president, E. A. Forbes; secretary, Paul Browne; assistant secretary, Spencer Brown; treasurer, N. F. Becker; assistant treasurer, Allan C. Brown; additional directors, M. H. Raymond, J. D. Mylrea and Fred Anderle. The executive committee is to consist of E. O. Brown, Mr. Forbes and Mr. Becker.

Paper Foundation Exhibit

Phil A. Howard, publisher of the *American Paper Merchant* and president of the Paper Foundation, Inc., spent several days last week conferring with A. C. Gilbert, president of the Gilbert Paper Company and a member of the board of governors of the Foundation, and with other manufacturers of the Fox River Valley relative to the exhibit to be arranged at the Century of Progress International Exposition at Chicago, June 1 to November 1.

The exhibit of the Paper Foundation, Inc., is to occupy 3,000 square feet of floor space in the Graphic Arts Pavilion, showing the manufacture of paper, pulp, and paper products, and their industrial, commercial, technical and domestic uses. Four complete divisions will be employed.

An attempt will be made to dramatize paper as the "great essential vehicle upon which all commerce and industry have been driven forward", according to Mr. Howard. A model paper machine in actual operation will be contrasted with the crude oriental method of making paper by hand. Motion pictures will visualize the entire operation from logging through to hand sorting.

The 10,600 uses of paper from napkins to car wheels will all be shown. A kitchenette apartment will be featured, with walls, floors, tablecloth, dishes, napkins and cutlery of paper, and furniture of pressed paper. Uses of paper in electrical, automotive, chair and shoe industries will be shown. It will be displayed also as used in phonograph records and employed by hospitals and laboratories.

It is expected that the exhibit will be of value to thousands of manufacturers who will view it, and who will discover new applications that can be used in their particular industries. A desire will also be created for the use of higher qualities in commercial pursuits.

Other Wisconsin manufacturers assisting Mr. Gilbert are Allan Abrams, Marathon Paper Mills Company, Rothschild; Fred G. Boyce, Brokaw; Folke N. Becker, Rhinelander Paper Company, Rhinelander; D. K. Brown, Neenah Paper Company, and Joseph M. Conway, Hoberg Paper and Fibre Company, Green Bay.

News of the Industry

Expansion plans at the tissue branch of the Marathon Paper Mills Company at Ashland, Wis., have been abandoned for the present and all bids rejected. The company was to have built a one story addition of brick and steel for additional converting and storage space. New bids will be asked when the work is to proceed.

Authorization has been given the Northern Electric Company, Green Bay, Wis., to issue 275,000 shares of capital stock as a stock dividend. This company is the hydro-electric subsidiary of the Northern Paper Mills, and operates the company's two large dams at Amberg, Wis. The issue was approved by the Wisconsin Public Service Commission.

About two hundred executives and employees of the Northern Paper Mills, the Hoberg Paper and Fibre Company and the Bay West Paper Company attended the opening meeting of the paper and pulp workers' section of the 1933 safety school at Green Bay, Wis., last week. The speaker was Fred M. Wilcox, a member of the Wisconsin Industrial Commission, who explained the workmen's compensation law of Wisconsin and its benefits to employees. The amount of recoveries paid to injured workmen and their dependents or survivors since the law was enacted, he said, aggregates six million dollars.

Pulp and paper making classes will be held evenings beginning soon in Fox River Valley cities, including Appleton, Green Bay and Marinette. L. J. McNamara, itinerant instructor of the vocational schools, will be in charge. A survey is now being made to determine the enrollment and the subjects to be offered. Paper mill cities of the Wisconsin River Valley conducted similar classes last fall.

Credit unions were organized last week at the Patten Paper Company, Ltd., Appleton, Wis., and the Thilmany Pulp and Paper Company, Kaukauna, Wis. The former will be known as the Patten Mimeo Credit Union, and the latter as the Thilmany Credit Union. They have been granted charters by the state banking department and will have as their object the promotion of thrift. They also will make loans to members. An unlimited amount of capital stock is permitted, with shares to have a par value of $5 each.

A. U. Marvin, for 34 years purchasing agent of the Nekoosa-Edwards Paper Company, Nekoosa, Wis., resigned February 1 because of ill health. His sucessor has not been named. He was made a life honorary member of the Rotary Club at Wisconsin Rapids, Wis., on retirement.

Joseph Hoolihan, formerly of Kaukauna, Wis., has been promoted to general superintendent of the Port Huron Pulp and Paper Mills, Port Huron, Mich. He was assistant superintendent for the last eight years.

Burial took place at De Pere, Wis., last week, of Thomas Edward Roe, who until nine years ago was superintendent of the sulphite department of the Munising Paper Company, Munising, Mich. He started his employment in the paper industry when 22 years old and served in mills in West Virginia, New York, Maine and Pennsylvania. He came to Munising thirteen years ago, but retired after holding his position there for more than four years. He was 59 years of age.

Chicago Paper Market Trend Is Irregular

Paper Business Shows Improvement During Early Part of Week But Falters Towards Week End—Position of Fine Paper Section Practically Unchanged—Kraft Wrapping Paper Continues Dull—News Print and Ground Wood Papers Quiet

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., February 6, 1933—A slight improvement, noted in the Chicago paper market the early part of the week, faded away on the week end, leaving the majority of the paper firms and manufacturers' representatives reporting about the same volume of business as last week. Some stimulus resulting in orders is being noted as a result of some intensive sales campaigns now under way. Effective direct mail advertising announcing new and useful lines is also having a good effect. The majority of the Chicago market representatives have a fair representation of quality to offer buyers which seems to indicate that the "price only" and "business at any cost" theme of the past year is to be supplanted by a drive for business on a fair profit basis. At any rate, the 1933 start is encouraging from this standpoint.

The paper board industry, in general, reported a fair volume of business during the past week, but in this line, as well as in most of the others, mills were reported at running about fifty per cent capacity although there were exceptions in both paper board and other lines. Fine papers remained about the same, some heavier volume being noted for replenishing following inventory taking. Canadian news print news has had its effect on the Chicago market, naturally, while it is reported that ground woods are quiet with but little expectancy of a definite upturn until at least early spring. Books and covers remain about the same. Krafts, in this market, continue slow with prices at very near the reported year's low. Jobbers are having a tough fight with credits but are working together to eliminate as much unfavorable development as possible. Waste papers are little changed over the past week.

Rather definite indications that paper manufacturers are doubling and redoubling their efforts to get business are to be found over at the Conway Building, long known as the "paper center" of the city. Here, with sales representatives on nearly every floor, one can call at office after office and find both sales managers and assistants out of the city and in the selling territory. This condition is very evidently more prevalent now than at any other time in many years. Having assured themselves that the "holding back until after inventory" theme can no longer be utilized, the sales representatives are combing the territory in an exhaustive effort to finally break down buying resistance as far as the paper business is concerned. The salesmen, representing all sorts of houses and all kinds of lines, are also unusually well equipped with new lines and re-vamped old lines which, with some intensive personal selling, should turn the trick.

Chicago Paper Association Meets

C. W. Markham, local representative of the A. P. W. Paper Company, spoke at a recent meeting of the Chicago Paper Association at the Bismarck Hotel. Mr. Markham explained the merchandising differences between interfold toilet paper and roll papers, pointed out the possibilities of selling interfold from a hygienic and sanitation standpoint and showed where the interfold variety could be a profit maker as compared to roll papers.

Chet Spalding, assistant secretary of the National Paper Trade Association was also a speaker. He urged attendance at the annual sessions to be held in New York next week and also talked on conditions in the paper industry throughout the country. He presented a chart map of the United States showing the location of various Associations and also illustrating business conditions. He indicated that some sections, notably the Pacific Northwest and the South West, did as well in 1932 as in 1931, while other sections, including the Middle West and eastern seaboard, did not fare quite so well.

The Association also further discussed its cooperative program with the manufacturers of toilet paper and tissues designed to strengthen the local market and it was reported that one or two additional manufacturers were still to be consulted before the general program to improve the market was put under way.

A. L. Brown Western Sales Manager for Oxford

Arthur L. Brown is now the western sales manager of the Oxford Paper Company and the Oxford Miami Paper Company, with offices at 35 East Wacker Drive, Chicago. This office will look after the sales for this section for both the Oxford Paper Company of Rumford, Maine, and the Oxford Miami Paper Company of West Carrollton, Ohio.

Mr. Brown has had many years of experience in the paper industry, having been with the Diem & Wing Paper Company of Cincinnati for sixteen years as director, secretary and treasurer, prior to his new connection. Before that Mr. Brown was associated with the Whitaker Paper Company for ten years as a director.

Waste Material Dealers to Convene

The twentieth annual convention of the National Association of Waste Material Dealers, Incorporated, is to be held at the Hotel Sherman, Chicago, March 13 to 15, inclusive. Not only will the convention bring many waste dealers from all parts of the country but it will also give Chicago dealers an opportunity to reap the benefits of improvement which aways follow locally, after a meeting of this kind. All of the important auxiliaries and subsidiaries of the National Association will convene, includng, of course, the Waste Paper Institute, which will have special group discussions designed to iron out a number of perplexing problems. An annual banquet of the Association is to be a highlight of the three day event.

Annual Trek to Paper Convention

Slowly but surely the Chicago contingent of jobbers, sales representatives and distributors is being assembled for the annual trek to the A.P.P.A. sessions at the Pennsylvania Hotel in New York City. The Chicago Paper Association is considering the sending of a delegation; the Western Paper Merchants Association will be well represented and the Middle West Division of the Salesmen's Association of the Paper Industry, under the committee leadership of Jim Coy, is utilizing each Monday session to get a new convert for the trip. The salesmen's chief focal point is the noon luncheon on February 14, always one of the high lights of the Association year.

Boston Paper Market Conditions Little Changed

Demand for Various Standard Grades of Fine Paper Very Slow—Bond and Ledger Paper Only Moderately Active—Slight Improvement Noticed In Wrapping Paper Market—Box Board Division Continues Dull—Paper Stock Trend Generally Quiet

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., February 6, 1933—The wholesale paper market, by and large, has been barely holding its own during the last week, compared with the previous one, although in some cases there has been a little improvement. Business among wholesalers has been insufficient to require continual operation of a portion of fine paper mills for a number of weeks. In one case, orders to a mill have been spotty, although, as a whole, a little better. At a prominent wholesale house, handling fine paper, business is reported as "pretty slow," and orders have not been what were anticipated. Demand for printers has been disappointing, although some orders are in the offing. The call for bonds and ledgers was hardly better than moderate. Some of the wrapping paper dealers report that the demand for the last two weeks was a little better. Others note a fair business. The box board market was rather dull, except for material for the manufacture of jig saw puzzles and their containers, the sale of which goes on apace. Values remain at the same levels.

It was a quiet week in paper stock, with quotations unchanged. Reports from the fine writing district are not encouraging. Some mills have been closed more than thirty days. A number of very large mills are running two days a week. While these conditions last it is exceedingly difficult to move paper stock, even at low prices. It is reported that January business did not develop satisfactorily, so that orders for fine paper are few and the trade is marking time. Low grades of waste papers are moving at about the same rate. There is a slightly better demand for kraft papers, but not sufficient to raise the price. Corrugated boxes can be sold freely at $3.50 to $4.00 per ton. Old burlap for paper making is difficult to move. Foreign scrap burlap is worth 75 cents on the dock. Gunny bagging is very quiet, with the season in the South not yet opened. One bagging manufacturer seems to be waiting to see what the other one is going to do. Until the market price on the finished product is stabilized it will not be easy to sell the raw product, according to the trade.

Hardwick Mills Inventory Acquired

The following circular letter, from the Mead Sales Company, Inc., 230 Park Avenue, New York, signed by R. I. Worrell, vice-president, has been sent to agents of the George W. Wheelwright Paper Company, of North Leominster, Mass., which is in the hands of receivers:

"In cooperation with the receivers of the George W. Wheelwright Paper Company who have been ordered by the Court to close the Hardwick mill, we have arranged to protect and perpetuate the stock lines as well as the many specialties you have entrusted to the Wheelwright Company for manufacturing over many years. The Hardwick inventory has been acquired and these lines will be distributed through the Wheelwright agents as heretofore.

"These lines will be manufactured by Dill & Collins, Inc., of Philadelphia, whose reputation for high grade papers is well known.

"Under the court order the Leominster mill of the George W. Wheelwright Paper Company, producing Bristols, Indexes and Blanks, will continue to operate under the direction of George W. Wheelwright. The sales will be handled by a new company to be known as Wheelwright Papers, Inc. E. W. Pierce, R. N. Finlay and Butler Cox, of the Wheelwright sales force, have joined the new company and will continue to handle the distribution of both the Book and Bristol lines.

"In making these arrangements, we have had in mind the following—(1) Prevention of forced liquidation of the Hardwick inventory, which we feel would be destructive to prices and orderly business at this time; (2) a protection of your present investment in these lines; (3) a continuation without interruption to you of the business which you have developed and of the relations with the same sales staff.

"We are trying to render a constructive service, and will appreciate your cooperation and support."

President George W. Wheelwright, one of the receivers of the George W. Wheelwright Company, says that the Hardwick plant of the company has been offered to the selectmen of that town in payment of $21,000 back taxes and that if tender is not accepted the entire property will be dismantled before April 1, unless a buyer appears. The plant includes mills, tenement houses and water rights assessed last year for $370,000. The paper stock at the Hardwick plant is being removed to Leominster.

News of the Trade

A large number of wholesale paper dealers are planning to attend the convention of the National Paper Trade Association in New York February 13, 14 and 15. Matthew Byrne, a delegate from the New England Paper Merchants Association, would like to see a large representation of this association, particularly because many important topics are to be discussed, including merchandising and relations between mills and merchants. He feels also that every paper merchant in New England should be present, whether a member of the association or not, because nothing but good will come from the convention.

John Carter & Co., Inc., is sending to customers the new revised prices of Dill & Collins, both on coated and uncoated papers, which were effective February 1. These are being mailed to the New England trade accompanied by the regular Boston Blue List.

Products of the Eastern Manufacturing Company are being attractively displayed in an upright case in the sales room of John Carter & Co., Inc.

Charles Fields and Richard F. Piper, of Baird & Bartlett, who have been away from the office on account of illness, have returned.

Mr. Kingman, of the Lowe Paper Company, Ridgefield, N. J., called on the trade last week.

E. W. Pierce, of the new company, Wheelwright Papers, Inc., and Paul Houston, vice president of the Marvellum Company, Holyoke, Mass., were in Boston last week.

The spring meeting of the Boston Paper Trade Association is to be held March 15 at the Algonquin Club. Dr. George H. Bigelow, commissioner of Public Health of Massachusetts, is to be the speaker.

Demand for Paper Listless in Philadelphia

Slight Recovery Recently Noticed in Both Fine and Coarse Paper Markets Well Maintained, In Most Instances—Local Paper Distributors Looking Forward to Discussion of Various Problems At Forthcoming National Convention In New York

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., February 6, 1933.—The slight recovery in the jobbing trade—both fine and coarse—as reported a week ago, has continued since then, unfortunately, however, with no marked advance, but the trade, quite well satisfied at that, evaluating this improvement more as an indication foreshadowing the future than itself alone, it was, of course, only slight; however, there has been no recession, and the experience of the first months of the New Year, while below what it had been hoped for, was just about up to the expectation of the conservative.

Meanwhile, however, quite aside from the question of routine sales are many other problems which the jobbers are facing and which they will discuss at the meeting during this week of the Paper Trade Association, the last before its appointed delegates will journey to New York to attend the sessions of the National body. President Hentz is loath to speak of these problems, but others in the Association are hopeful that something can be done to benefit them in the long standing problem of direct sales by mills, in checking the demoralization which sales of distress stocks and of discontinued numbers have had and in the invasion of the legitimate field by certain other interests.

Association Activities

This forthcoming meeting of the Paper Trade Association on Wednesday of this week will be influential, it is hoped, in giving impetus to the recently reported reorganization of the Paper and Cordage Association. Preliminary thereto, Edward A. Keller, of the Garrett-Buchanan Company, chairman of the Membership Committee, will confer on Tuesday with others of the Paper and Cordage Association for the purpose of launching a membership drive. The Paper and Cordage Association now has a majority of all the firms engaged in this particular branch of the business in this city, but these include only two of the coarse paper houses now in the Paper Trade Association. An effort, therefore, will be made to have coarse paper houses in the Association join the Cordage organization. It is pointed out that their programs by no means conflict, particularly since in the Cordage Association the doors will be open not merely to one representative of a firm but to all of its salesmen, not only for fellowship but for the exchange of information through that fellowship, and which it is believed will be mutually advantageous not only to the seller but to the buyer as well.

Hugh F. Gannon's Unique Service

The filing of an application with the Public Service Commission by Hugh F. Gannon, for formal registration, caused some misunderstanding in the trade, among whom Mr. Gannon is regarded most highly because of his unique service which he inaugurated in this city and which since that pioneership here has been extended to Baltimore, Washington, Norfolk, Richmond and Pittsburgh. The Paper House of Pennsylvania, the Thomas W. Price Company and others called attention during the week to the vastly improved conditions in the matter of deliveries effected through the enterprise of Mr. Gannon, and the story is one which holds not only interest but real value.

Until his advent as a youth, inheriting a small business from his father, deliveries from the New England mills were described as being almost chaotic. Shipments were often delayed until full car loads were available, and moreover imposed on the jobbers the necessity for carrying large stocks in the warehouses to supply immediate demands. As quite a youth, Mr. Gannon took over just a few horse teams from the estate and early in his business career had an experience which was most unfortunate for immediate results but most helpful for what followed.

The proposition was made to him to contract for local deliveries by a jobbing house and he agreed to take over its teams in this connection, but a few weeks thereafter this jobbing house sold out to another which already had its own delivery service, and Mr. Gannon found himself in a sense overloaded. It was then that he made the arrangements which have now been perfected. He visited the Holyoke district and instituted a system of club car service through which it was possible to make deliveries on about a 2-day schedule. His trucks in the district gathered up less than car load lots, combined them, and thereby saved much delay. Subsequently and in recent years the service has been so far improved that it is actually possible if a telegraph order reaches Holyoke before 3 o'clock in the afternoon to have goods delivered to warehouses in Philadelphia early the next morning.

Under Mr. Gannon's organization, ten trucks circulated through the Holyoke district from Fitchburg on one side to Lee and Pittsfield on the other, gathering up these rush shipments and placing them in club cars, which—through arrangement with the railroad company—he was able to run on passenger train schedules; these cars are then run on to the railroad's own siding to the warehouse 430 North Front street, where Mr. Gannon's offices are located, and from whence distribution is made by trucks the following morning. So successful has been this project that a similar service has been organized for the other cities named, Norfolk, Baltimore, Washington, Richmond and lately for Pittsburgh, so that L-Cl shipments are now expedited more than full cars ever were.

Although the Gannon business had been organized before the creation of the Public Service Commission, recent interpretation of the law has made it necessary for Mr. Gannon to formally apply for registration as a common carrier, and it was this fact which caused some misunderstanding and brought out so many expressions of sympathy and approval.

To Represent Whiting-Patterson

The Whiting-Patterson Company, Inc., 386 Fourth Avenue, New York City, announce to the trade the appointment of Stewart L. Wooden of Belmont, Mass., as its representative in eastern Massachusetts and in northeastern Rhode Island in the distribution of the Whiting-Patterson "Personality Papers."

Mr. Wooden is well known throughout New England in the fancy paper field and the Whiting-Patterson organization is confident that through his experienced sales efforts, the buyers in that territory will become better acquainted with their fine line of fancy papers. This is another step in the development of their plans to continue to be leaders in a field in which they were pioneers.

Temporary Committee Opposing Tariff on Wood Pulp Presents Brief at Washington

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., February 8, 1933—H. P. Christian of New York City, appeared before a sub committee of the Ways and Means Committee of the House of Representatives Wednesday of last week on behalf of the Temporary Committee Opposing a Tariff on Wood Pulp in opposition to the depreciated currency bills under consideration. He stated that a tariff on wood pulp would injure the mills he represented. Mr. Christian's remarks in part were as follows:—

The work of this temporary committee is sponsored by 154 manufacturers of paper operating 236 mills located in 22 states. Based on replies to questionnaires so far received, the average capital invested by each of these manufacturers is $2,500,000; their average number of employees is over 300; they pay an average of $45,000 per year in taxes, and their bill for transportation averages $175,000 apiece.

At the outset, I should like to make it clear that the Temporary Committee Opposing Tariff on Wood Pulp is interested *solely in wood pulp*. The temporary committee has made a thorough study of the wood pulp situation and is fully convinced that it is to the best interests of the pulp and paper industry *as a whole* to have wood pulp retained on the free list where it has been for more than 20 years.

I also wish to make clear that in so far as wood pulp is concerned, this controversy is not between foreign and domestic interests. It is purely a fight between two divisions of the paper industry, of approximately equal size, both of which manufacture the same finished product.

I note on the back of the bills under consideration it is stated that they are to prevent loss of revenue. But no loss of revenue can accrue to the government when the article is on the free list as is wood pulp. It is further stated that the bill is to provide employment for American labor. But far from doing that, if it is enacted, it will, as I shall show later, deprive large numbers of American workmen of their jobs. And lastly, the bill states that it is to maintain the industry and agriculture of the United States against the effects of depreciation in foreign currencies. This last provision does not apply to wood pulp any more than the other two, and I shall show in my remarks that the depreciation that has taken place in foreign currencies has not increased the imports or lowered the price of wood pulp, and so has not adversely affected the domestic pulp industry.

I'll state right here that there is absolutely no dumping of foreign wood pulp on our markets; that there is no flood of foreign wood pulp; that prices of wood pulp imports have been remarkably steady; and that wood pulp imports have decreased more than has our domestic production. These statements are not idle generalizations. They are based on solid fact, and backed by the full authority of official government reports. In brief, I propose to prove from official figures that the wood pulp situation does not need any legislation such as is before your Committee, and that if wood pulp is included a great injustice will be done to one-half of the United States paper industry, and thousands of American workmen will be thrown out of employment. We are firmly convinced that if you gentlemen decide to approve any legislation along the lines of the Hawley or the Hill bills *you should definitely and explicitly provide that the wood pulp paragraph No. 1716 is included among the exemptions provided for.*

We should not deceive ourselves as to the nature of the bills before your Committee. These bills are to all intents and purposes tariff legislation. Similar bills were originally advocated by the manufacturers of pulp and paper in the states of Oregon and Washington as a part of their attempt to dominate the paper industry of the country by forcing the converting paper mills of the East and Middle West to purchase all their pulp requirements from competitors who produce both pulp and paper. At first it was openly stated that they were tariff legislation and intended to place a duty on wood pulp. Later, due to the general sentiment of the country against higher tariff duties, an effort has been made to identify them as tax legislation or currency equalization legislation.

Regardless of how they may be sugar-coated or under what name they are proposed, the net result is to place an increased tariff duty on a large percentage of our imports which are now dutiable and to place tariff duties on a large number of items which are now, and have been for many years, on the free list.

Some have claimed that it was the purpose of legislation to restore to the government the revenue which was originally intended when the Tariff Act of 1930 was passed. Even a cursory examination of the facts, however, shows that the depreciation of foreign currency can have had but slight effect upon our total revenue. During the past three years approximately 67 per cent of our imports have each year been admitted free of duty and therefore not even the Smoot-Hawley Act contemplated any revenue from them. Of the remaining 33 per cent of imports comprising the dutiable items, 48.6 per cent are at specific rates, that is, have tariff duties of a fixed number of cents per unit of quantity; 37.3 per cent are at ad valorem rates, with duties fluctuating with the value; 8.0 per cent are at compound rates, both specific and ad valorem; and 6.1 per cent are at miscellaneous rates, affected by various provisions regarding maximums and minimums. Moreover, inasmuch as the specific rates average higher than the ad valorem rates, 58.2 per cent of the total customs revenue is collected from items in the specific group; 26.0 per cent from items in the ad valorem group; 9.9 per cent from the compound; and 5.9 per cent from the miscellaneous group. Allocating the revenue from the compound and miscellaneous group equally between the specific and ad valorem groups (a conservative allocation as it is roughly estimated that the specific element in these groups really outweighs the ad valorem element) it is seen that at least 66.1 per cent of the customs revenue is derived from specific, and not more than 33.9 per cent from ad valorem rates.

It is only from those items in the ad valorem group, comprising only 14.6 per cent of our total imports including the free list, that any loss of revenues can possibly follow a depreciated foreign currency, inasmuch as the revenue from items in the specific group can be reduced only by a reduced volume of the imports; and it sometimes is claimed, though erroneously, that one effect of the depreciated currency is actually to increase the volume of our imports, which, if true, would naturally increase the customs receipts.

The maximum possible loss in Federal revenues, then, that could be brought about by depreciation of foreign currencies, assuming an average depreciation of 20 per cent, amounts to 20 per cent of 33.9 per cent, or to 6.8 per cent. This ratio applied to total customs revenues of $354,000,000, the net receipts of the calendar year of 1931, amounts to a maximum total loss of $24,000,000.

If the claims of the proponents of this legislation that our imports are greatly increased is true, then the revenue from such imports would more than offset this loss of 6.8 per cent.

The bills which are now before the Ways and Means Committee, instead of compensating only for any loss in revenues would place additional duties upon imports coming from countries off the gold standard, both dutiable and free list item, including the 85.4 per cent of total imports the customs revenue from which could not possibly be affected by any depreciation in foreign currencies, in order to compensate for an alleged loss in revenue from the 14.6 per cent that might be claimed to be so affected. The bills which are before this sub committee are apparently not quite so drastic in their present form as the Hawley Bill which was considered last session.

The weighted average currency depreciation of all foreign countries, *including the gold standard countries*, is now about 20 per cent, so the Hawley Bill of last year would impose additional duties amounting to 25 per cent of the value of all imports, which would be the percentage required to restore to par a currency that was 20 per cent, and the Hill Bill would impose additional duties amounting to 20 per cent.

The average rate of duty, based on all imports, was 13.4 per cent during the calendar year 1929; 14.8 per cent during 1930; and 16.9 per cent during 1931. The proposal of legislation to offset currency depreciation, therefore, innocent as it may sound, really means a tariff wall around this country that is over twice as high as it was during 1931 since it would add 20 or 25 points to the present percentage of 16.9, making a new total of 37 to 42 per cent.

There has been some criticism of the Tariff Act of 1930 because the claim is made that it increased our tariff rates too much. This has been a much debated question, but the average increase in tariff duties between 1929 and 1931 amounted to only 3.5 per cent of the total imports (from 13.4 per cent in 1929 to 16.9 per cent in 1931) whereas the increase contemplated by the depreciated currency legislation amounts to 20 or 25 per cent of total imports, which is 6 or 7 times the increase that followed the Smoot-Hawley tariff bill. The result would be a tariff wall of unprecedented height and more than double the duties resulting from the Smoot-Hawley Act.

There appears to exist a general belief that the present depreciation of foreign currencies is unparalleled by any condition during past years, and that we must resort to extraordinary measures in order to protect our industries from the flood of foreign goods that is said to be inundating our domestic markets at prices below our domestic costs of production. This belief, however, is an error inasmuch as a far worse situation confronted us in 1921 during a period of domestic depression and unemployment. We effectively solved the problem then, and entered a period of renewed prosperity. The same solution will take care of any problem that may exist today.

Although it is not generally remembered, there was in 1921 a widespread depreciation of foreign currencies. The English pound depreciated about 30 per cent; the French franc about 60 per cent; the Italian lire about 75 per cent; and in several countries the depreciation amounted to over 90 per cent. In Germany the mark had depreciated 95 per cent by the middle of 1921 and continued to fall until it practically reached zero.

The simple average depreciation of the currency in 30 of the principal foreign countries amounted to about 55 per cent at the middle of the year 1921. Today in those same countries, the simple average depreciation is only about 20 per cent, so the average depreciation in 1921 was over twice as severe as it is today. In 1921 only 3 of the 30 countries, (Japan, Cuba and Mexico) had currencies that had not depreciated more than 10 per cent of par. Today 15, or one-half, of the 30 countries have currencies which have not depreciated more than 10 per cent, and 13 of them are off less than 5 per cent of the par value. These facts are shown in a table which I have prepared and would like to have inserted in my remarks at this point.

DEPRECIATION OF CURRENCIES 1921 AND 1932

Country by Continent	Per cent of Depreciation	
	July, 1921	Sept., 1932
Europe		
Austria	99.30	0.76
Belgium	60.43	0.28
Bulgaria	95.05	No depreciation
Czechoslovakia	93.52	0.02
Denmark	41.12	32.92
Finland	91.50	40.66
France	59.52	0.05
Germany	94.53	0.16
Greece	71.24	53.38
Hungary	98.36	0.14
Italy	76.55	2.54
Netherlands	20.94	0.10
Norway	50.07	34.90
Poland	99.78	0.35
Portugal	88.81	28.78
Rumania	92.75	0.30
Spain	33.58	58.01
Sweden	21.50	33.56
Switzerland	14.27	0.00
United Kingdom	25.36	28.68
Yugoslavia	86.72	9.70
North America		
Canada	11.80	9.74
Cuba	0.98	0.09
Mexico	1.88	39.99
South America		
Argentina	31.80	39.27
Brazil	67.80	36.31
Uruguay	41.32	54.18
Asia		
India	52.61	28.17
Japan	3.69	52.59
Straits Settlement	26.06	29.12

If consideration be given to the fact that the different countries vary in importance as far as our foreign trade is concerned, the average depreciation today is still about 20 per cent. This figure is the average during the first six months of last year, each country being weighted by the value of its general exports to the United States during that period. A similar weighted average for 1921 was computed by the Federal Reserve Board and found to be 38 per cent, both for the month of July and for the entire year, which was approximately double the present depreciation. This computation, however, was conservative, inasmuch as only 17 of the 30 countries were included in the average, the greatest depreciation in any of the 17 being about 75 per cent, in the case of Italy. Of the 13 countries omitted from the average, 10 had a depreciation greater than 85 per cent, and if the Reserve Board had included all of the 30 countries the average depreciation in 1921 would have been materially higher than the 38 per cent reported.

For some years after 1921 the foreign currencies fluctuated more or less widely and finally, around 1925 to 1927, were stabilized. In a few cases such as Great Britain, Norway, Sweden, and Switzerland, the old monetary unit was retained at the old par value, and the exchange rates in these countries were brought back to the par values. In many cases, however, a new par value was fixed much lower than the old. In France, for instance, the par value was reduced from 19.3 cents to 3.92 cents; in Italy from 19.3 cents to 5.26 cents; and in Belgium from 19.3 cents to 2.78 cents. In other countries, such as Germany, an entirely new monetary unit was created.

In this manner 16 of the 30 countries have today a par value for their currencies that is materially lower than the par that existed in 1921 or else have a new monetary unit.

Not only is there a remarkable similarity between 1921 and today as regards depreciation of foreign currencies, the depreciation in 1921 being, however, about double what it is today, but there are other similarities between the two periods. In 1921 the United States was suffering from a depression just as it is today. The price level had fallen over 40 per cent in one year and industrial production had fallen about 35 per cent. Then, as now, farm prices were particularly affected and the economic position of the farmer was especially unfortunate. Unemployment in 1921 rose to such a high level that the President called a conference of industrial and labor leaders to see if any remedy could be found.

With such a background, the Congress in January, 1921, started hearings upon a general revision of the tariff act. A corrective for foreign currency depreciation was sought, it being recognized that all countries would have to be treated equally in tariff rates in accordance with our 50 or so commercial treaties containing "most-favored-nation" clauses. The remedy found was the "flexible provisions" paragraph of the tariff act.

These "flexible provisions" empowered the Tariff Commission to investigate and determine the actual difference in foreign and domestic costs of production under actually existing conditions. In December, 1921, the President in his message to Congress devoted a special section to his recommendation for a more flexible policy. He stated:

"I hope a way will be found to make for flexibility and elasticity, so that the rates may be adjusted to meet unusual and changing conditions, which cannot be accurately anticipated. There are problems incident to unfair practices *and to exchanges which madness in money have made almost insolvable.* I know of no manner in which to effect this flexibility other than the extension of the powers of the Tariff Commission, so that it can adapt itself to a scientific and wholly just administration of the law."

The flexible provision, drawn up in 1921 and adopted in 1932, are still a part of our tariff act. Originally planned to take care of the extraordinary conditions of 1921-22, with slight modification simplifying the procedure, they furnish ample protection against the less extraordinary conditions of 1932-33.

Aside from the fallacy of the arguments that the proposed bills will merely bring back revenues to what were intended and that the legislation is necessary in order to prevent dumping, there is a grave question as to whether or not Congress can delegate such broad authority to the Secretary of the Treasury. I am not a lawyer, but I have heard it argued by very able lawyers that Congress cannot delegate its revenue raising authority without definitely setting up a formula as is done in the flexible provisions section of the tariff act for determining rates of duty, based upon individual competitive conditions and costs of production on individual items. In my judgment it would be just as logical for Congress entirely to divest itself of its tariff-making power by instructing the Secretary of the Treasury to declare all tariff duties, basing his rates upon exchange values and index numbers in general in a country without any regard to individual commodities, as it would to pass the proposed bill.

There is also the very serious question of international law as to whether or not depreciated currency legislation would violate the commercial treaties which we have with approximately 50 countries.

The recent experience with a tariff on coal is an interesting case in point. Recognizing the deplorable state of the bituminous coal industry, Congress last year placed an import duty on all coal, excepting, in effect, coal brought in from Canada. The Customs Bureau promptly began collecting such duties acting on instructions from the Secretary of the Treasury. England protested that any duty on English coal was a violation of the most-favored-nation treaty between England and the United States and her protest was sustained by our State Department. The Secretary of the Treasury thereupon attempted to cancel his instructions, but the Attorney General, without passing upon the treaty violation, stated that in accordance with the law the original Treasury ruling could not be changed without a favorable opinion from his office and that the matter should be left to the Courts. This may require many years, if appeal is taken, before a final decision is reached, and in the meantime our State Department is of the opinion that we are violating our treaty obligations.

Ultimately, however, it seems apparent that the final decision will be that treaty obligations take precedence over tariff legislation. As I said, I am not a lawyer, but a day or so ago I read that the United States Supreme Court had recently decided that the 1930 Tariff Act, which fixed a 12-mile zone for boarding of vessels for discovery of customs laws violations, is limited by the 1924 Treaty, as regards search and seizure of British vessels.

As applied to wood pulp, it seems to me to be apparent in the light of this decision that Congress cannot pass effective legislation admitting free of duty wood pulp from Germany, whose currency is at par, while at the same time imposing any kind of restriction, tariff, tax, surtax, equalizing fee, or duty upon wood pulp from Norway and Finland with which we have commercial treaties containing the most-favored-nation provisions.

Considerable time has been devoted to the fact that various foreign governments have adopted legislation placing surtaxes on goods from depreciated currency countries. This point was fully covered last May, and all I shall do now is to call to your attention the fact that the heaviest surtax imposed by France was only 15 per cent, as compared with the surtaxes of 40 and 50 per cent contemplated in some cases by the bills before you and also that in the cases which have come to my attention where a foreign country has taken any action on depreciated currency, they have exempted countries with which they had commercial treaties and either all or a large number of commodities on the free list.

A pamphlet proves conclusively, from official government figures, that:

1. Domestic wood pulp production has more than kept pace with consumption.
2. Domestic wood pulp manufacturers have been operating at a much higher rate than industry in general.
3. Imports of foreign wood pulp have fallen off materially.
4. Prices of foreign pulps are higher than domestic pulps and have been very steady.

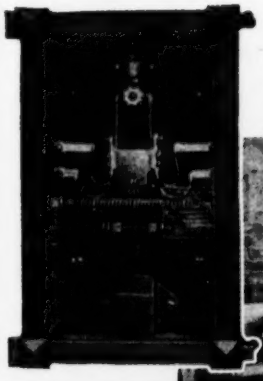
Statistics of United States production of wood pulp are available through the calendar year 1931; they show an increasing ratio to the total domestic consumption, as follows:

Year	Percentage of Consumption furnished by domestic manufacturers
1925	70.2
1926	71.6
1927	71.9
1928	71.9
1929	71.8
1930	71.5
1931	73.2

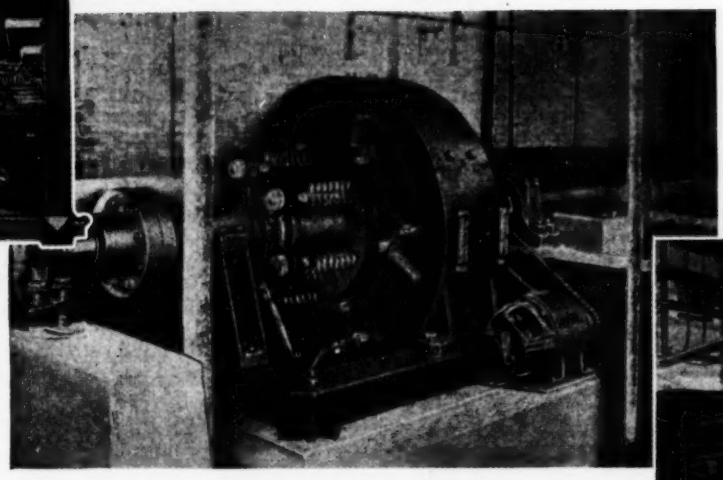
Domestic production for the calendar year 1932 has not yet been reported, but the total imports have decreased from 1,596,421 short tons in 1931 to 1,481,759 short tons in 1932 a decrease of 7.2 per cent.

MODERNIZE *the back-line-shaft drive of your paper machine*

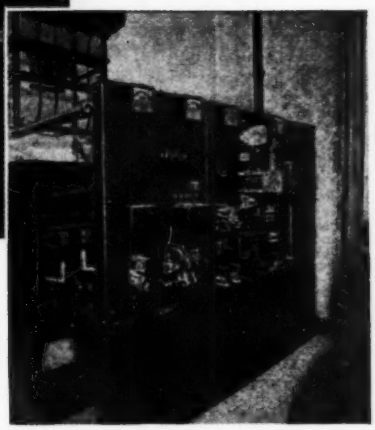
with the G-E SINGLE-MOTOR, SPEED-REGULATING SYSTEM



G-E Type FD speed regulator



G-E 250-hp. motor and pilot generator, connected to back-line of paper machine



G-E control panel for single-motor, speed-regulating system

THIS unique system has been designed to combine simplicity with accuracy and dependability. Consider what it offers you:

Accurate, positive speed regulation through the use of the Type FD regulator and a specially designed pilot generator — a combination of simple devices.

Coarse or fine speed adjustment in equal percentage increments provided by a vernier rheostat operating in conjunction with the FD regulator.

Control equipment that provides manually operated speed adjustment from the machine room with automatic acceleration to a preset speed.

The elimination of varying speed as a factor in weight control.

General Electric can supply this system for operation on either a-c. or d-c. power. Your nearest G-E office has complete information and will be glad to furnish details.

Have you considered using the new G-E Thrustor for replacing levers, pedals, air and hydraulic cylinders, solenoids, etc? Ask your nearest G-E office for a copy of Bulletin GEA-1262B.

230-4

GENERAL ELECTRIC

In this connection, I should like to point out that the currently reported wood pulp production figures of the American Paper and Pulp Association are worthless as an indication of what the industry is doing. The American Paper and Pulp Association figures are based on the production of identical mills, and because these mills constitute a varying, and not a constant proportion of the entire industry, their production is misleading when taken as typical of the entire country. For instance, last spring the American Paper and Pulp Association estimated that the domestic production of wood pulp during 1931 was only some 3,880,000 short tons including semi-chemical wood pulp and screenings and so reported to the Department of Commerce (see 1932 Commerce Yearbook Vol. 1, page 497) whereas the official production was later reported by the Census Bureau as 4,409,344 short tons, the error in the estimate of the American Paper and Pulp Association amounting to 13.6 per cent.

The most interesting fact revealed by the official figures of imports of wood pulp is that although the volume of these imports have decreased from countries whose currencies have depreciated; they have actually increased from Germany, whose currency is still at par. During the twelve months following the depreciation of currencies, the volume of imports of wood pulp from England, Norway, Sweden and Canada decreased 10.6 per cent as compared with the imports during the corresponding 12 months immediately preceding the depreciation, whereas wood pulp imports from Germany *increased* 31.1 per cent. This fact shows that there is at least one commodity, namely wood pulp, whose imports have not been affected by the depreciation of foreign currencies.

In regard to price, there has been a lot of loose talk and unfounded charges, but the fact remains that the unit values of imports per ton of chemical wood pulp from depreciated currency countries have been remarkably steady since the depreciation, whereas the unit value per ton of wood pulp imported from Germany, whose currency is at par, have shown a decrease.

The real trouble in the price situation of wood pulp is caused by the expansion of the pulp and paper industry on the Pacific Coast where wood costs and other production costs are lower than elsewhere in the United States.

The United States Timber Conservation Board made a survey and reported that as of June, 1931, the wood pulp mills of the Pacific Coast could make unbleached sulphite wood pulp, pay the transportation charges, and lay it down on the New York dock $13.04 per short ton *less* than the pulp mills of New England; $15.24 *less* than the pulp mills of the middle Atlantic states; and $15.96 *less* than the pulp mills in the Lake states.

Naturally, when the great expansion of the Pacific Coast pulp mills occurred there were heavy offerings of this low cost pulp in the Eastern markets. The price of pulp was thus beaten down by the Pacific Coast interests in a price war that started in 1930, before any depreciation of foreign currencies had taken place.

Both in quantity and in price, therefore, the official facts prove that wood pulp imports have not been competing unfairly, that wood pulp is not dumped in the United States and that there has been no flood of foreign wood pulp demoralizing our markets. From Germany, whose currency is at par, it is true that quantities of wood pulp have increased and that values have fallen, but naturally neither of these trends can be attributed to any currency depreciation. But from countries with depreciated currencies the quantities of wood pulp have decreased, and values per ton have not fallen materially proving that so far as wood pulp is concerned there is no need of the proposed legislation.

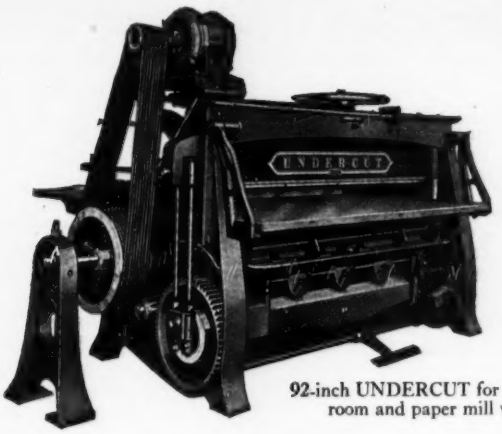
The pamphlet entitled "Wood Pulp" which I asked to have printed in my remarks shows how the paper industry is divided into two major groups, the self-contained mills and the converting mills. The self-contained paper mills are owned by or are closely affiliated with wood pulp mills. The converting mills purchase their entire wood pulp requirement. As a general proposition I can say that on the whole the self-contained mills are in favor of a duty on wood pulp, and that the converting mills are opposed to it. Some self contained companies, however, think that it is best for the industry to retain wood pulp on the free list and have authorized my committee to represent them in opposing this legislation. On the other hand, there are some converting mills which favor the proposed bill.

In capacity of paper making the two groups are approximately equal in size, the converting mills group being slightly the larger with about 56 per cent of the capacity of the entire industry. In the consumption of virgin wood pulp the two groups are also approximately equal, but here the converting mills are slightly the smaller, using only about 40 per cent of the total wood pulp consumed in the country. This is because a great many of the converting mills use rags, straw, waste paper, and other raw material as well as wood pulp.

The capacity of the wood pulp mills owned by or affiliated with the self-contained paper mills have as a whole a normal capacity of wood pulp production that is in excess of the requirements of their paper mills. This excess capacity is offered for sale on the open market and is purchased by the converting mills. There are also about a dozen wood pulp mills, situated chiefly in the states of Washington and Oregon, that apparently are independent and not owned by or affiliated with any paper interests. The Bureau of the Census reports that normally about 85 per cent of the wood pulp production of the country is utilized in owned or affiliated paper plants and that only some 15 per cent is offered for sale, and a portion of that 15 per cent is not available to converting mills as it is taken by some of the self-contained mills that need more than they produce. This 15 per cent that is offered for sale amounts to only about one-third of the converting mills requirements, the only available source of the other two-thirds being imports of wood pulp. This is the relationship during normal times. During abnormal times like the present, when the demand for paper is less than it should be, the self-contained mills are unable to sell as much pulp as they like to sell, and, naturally enough, they complain. But during times when the demand for paper is better than the average, the self contained mills fill their own pulp requirements first and do not offer for sale the usual amounts. During these periods the converting mills are forced to purchase larger quantities of imported wood pulp, and if these imports are restricted or shut out the converting mills would be helpless and unable to fill their orders for paper.

Since importations of wood pulp are necessary if the converting mills are to be allowed to continue in business during both good times and bad, it follows that any duty or tax on imports will increase the costs of production of the converting mills, while costs of production of self-contained mills will not be increased. As the two groups are now competitors in the paper business the passage of this proposed legislation will necessarily destroy whatever equality of competition exists today and large numbers of the converting mills will be forced to the wall, their business going to the self-contained mills.

Even that is not the complete picture. One of the results of this legislation would be the exclusion, in whole or in part, of the foreign imports of wood pulp. As there are only about a dozen pulp mills that are apparently independent, without paper ownership or paper affiliation, and as



92-inch UNDERCUT for finishing room and paper mill work.

You will like to run this CUTTER

Makers of Fourdrinier paper machines (up to 168 inches width) for the finest papers; bonds, books, condensers, ledgers, tissues.

Straight Fourdriniers,
Edward type Fourdriniers,
Harper type Fourdriniers,
Cylinder Machines,
Wet Machines,
Bindersboard Machines,
Leatherboard Machines,
RAINSTORM Shower Pipes,
UNDERCUT trimmers,
Paper Bag Machinery,
Slitters and Calenders,
Reels and Winders,
Rolls (brass and wood felt rolls, bronze and rubber covered press rolls),
Jordans and Jordan fillings,
Stuff and Fan Pumps,
Castings up to 10 tons each from our own or customers' patterns.

All accidental starts are impossible. DUAL CONTROL, the latest development of S & W engineers, requires two distinct throws of the starting lever in opposite directions and both hands below the front table before the knife starts to cut.

Operating mechanism for the first time can be placed within easy reach with complete safety. This saves steps, permits faster work, fewer motions, closer control of the cut.

Whether superintendent or operator, DUAL CONTROL and the 12 other features exclusive to users of UNDERCUTS will make you like to run this cutter.

UNDERCUTS are built in a complete range of sizes: 34", 38", 44", 48", 50", 56", 63", 69", 76", 84", 92" and larger.

The coupon brings complete facts on these modern trimmers. It is for your convenience, and there is no obligation.

The SMITH & WINCHESTER *Manufacturing Company*

PLANT AND OFFICES AT SOUTH WINDHAM, CONNECTICUT

Gentlemen:

We would like the latest facts on UNDERCUTS. Without obligation send bulletin ☐ and quotation ☐ on a.....UNDERCUT to:
Size of Cutter

Name.....

Company.....

Street and Number.....

City.....*State*.....

061

the total capacity of these independent pulp mills is far from being sufficient to supply the requirements of the converting mills, it follows that the converting mills will be forced to secure their supply of wood pulp from the self-contained interests that are actively competing with them in their paper business. They will then be completely at the mercies of these self-contained interests, not only in the matter of price, but even as to whether pulp is to be supplied to them at any price.

In the name of these converting mills we strongly protest against such unfair discrimination. We protest against being placed at the mercy of our competitors. We protest against any action of Congress that must lead to our ruin.

We are a group of American manufacturers, representative of about half of the American paper industry, with heavy investments of American capital, employing American workmen, paying American taxes, and contributing heavily to the support of American railroads.

This fight, as far as wood pulp is concerned, is not a fight between domestic and foreign manufacturers. It is purely an internal fight within the paper industry, of two groups of paper manufacturers. On the one hand are the comparatively few, but large, self-contained mills that are trying to obtain an unfair advantage in competitive conditions. On the other side are the many, but comparatively small, converting mills desperately trying to fight off the extinction that is threatening to overwhelm them if this legislation goes through.

If once the self-contained mills manage to secure control over the pulp situation in the United States it is only a question of a short time before they will extend their control over the paper situation and dominate completely the manufacture of paper in all of its many forms. The legislation before this committee if enacted so as to include wood pulp would cause the paper industry to undergo a complete transformation. There would be a shift from the present large number of small companies, located in many states, to a small number of large companies located in a few states and concentrated largely in the extreme northern portion of the country, and in the Pacific Northwest. More than half of the converting mills are located in small communities of under 10,000 population. They are the life blood of the town—in many cases the only industry, and to close them would mean the abolishment of the town, with resulting loss in property values, employment, taxes, etc.

Furthermore, the shift from many small to a few large companies would entail a permanent loss of employment on account of the greater labor efficiency of the new large, as compared with the old small machines, and if their output is to be transferred to large machines the total aggregate amount of available employment in the paper industry will be materially smaller than it now is. I do not think that the present is the proper time to run the slightest risk of increasing the horde of unemployed that is becoming an ever more serious problem to our municipalities, states, and to the federal government.

As regards dumping, surely that charge cannot be honestly brought against any commodity the quantity of whose imports has actually fallen at a rate faster than any fall that has taken place in domestic production, and whose unit value per ton has been maintained as has the unit value of wood pulp. There has been no dumping of wood pulp in any sense of the word, either literally or metaphorically, legally or in the popularly accepted meaning of the term.

A great deal of publicity has been given to an article by Mr. Samuel G. Blythe in the December 3, 1932, issue of *The Saturday Evening Post*. This article has been reprinted in pamphlet form and has been spread broadcast. It was placed in the Congressional Record of Tuesday, January 24, on pages 2498-2502. Mr. Blythe said very little about wood pulp, in fact he made only two statements regarding it. *Both of these statements are wrong.*

Mr. Blythe stated first that "the markets are flooded with pulp from Sweden, Norway, and other countries that have debased their currencies ....." I think I have already shown that according to official government there has been no such flood as Mr. Blythe depicts. Quite to the contrary, there has been an ebb, except from Germany, which has not bebased her currency.

Mr. Blythe's second statement, which is also erroneous, is to cite an instance said to have taken place last summer, when the Swedish krona dropped an additional 15 per cent below the 35 per cent depreciation that already existed. The records of the rates of exchange of the krona reported officially by the Federal Reserve Bank of New York show that no such drop took place, and Mr. George H. Lorimer, the editor of *The Saturday Evening Post*, in a letter to me dated January 3, 1933, admitted that Mr. Blythe was in error in stating that it had.

Another example of misleading propaganda with reference to wood pulp is contained in a statement under date of January 6, 1933, by a Wisconsin manufacturer of paper and wood pulp. This statement contains a table of "receipts of foreign wood pulp at Lake Ports serving Wisconsin and Michigan paper mills for the years 1928 to 1932 both inclusive." The table omits some imports during the earlier years (for instance, he omits imports of 7,480 tons through Chicago in 1928; 5,527 tons through Chicago in 1931; 560 tons through Monroe Harbor, Michigan in 1931; 7,654 tons through Chicago in 1930) and thus indicates an increase greater than actually took place, but quite apart from that the table is extremely misleading because it covers only those imports into Wisconsin and Michigan that are water-borne up to the Lake ports. Rail imports from Canada through Duluth-Superior Customs District and by other routes are not included and neither are foreign imports that cleared at Atlantic ports and were sent inland by either rail or water.

The figures themselves are compiled by the Board of Engineers for Rivers and Harbors, United States Corps of Engineers, and show exactly what they are meant to show, namely the water-borne traffic through the various ports of the United States. They do not show anything more. They do not show, nor are they meant to show, total foreign imports into any area.

To illustrate the impossibility of gauging total imports into any given area without more data than are given by the Army engineers for the water-borne traffic it is only necessary to compare the water-borne imports with total imports, including also rail transportation. For the years 1930 and 1931 the figures are as follows:

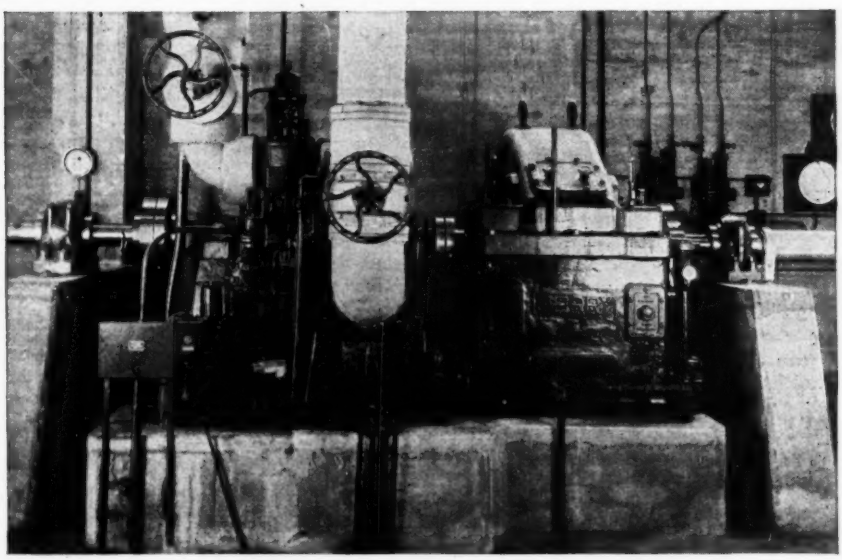
	Imports of Wood Pulp Short Tons	
	1930	1931
Water-borne imports through Lake ports (U. S. Engineers)	32,758	73,767
Total imports by rail and by water into customs districts of Duluth-Superior, Wisconsin, and Michigan (U. S. Department of Commerce).....	241,602	224,763

It is seen from the above that the water-borne imports into the territory amounted only to ⅛ in 1930 and to ⅓ in 1931 of the total imports and that whereas the water-borne imports increased by 125 per cent the total imports (including both water-borne and rail imports) actually decreased 6.97 per cent. (If the customs districts of Dakota and Chicago are also included, the decrease in imports is 8.45 per cent).

Furthermore, this is not the entire story by any means

TERRY

PAPER MACHINE DRIVE



400 HP Variable Speed Turbine Paper Machine Drive — Compact — Efficient — Dependable — Delivers Clean Exhaust Steam for Driving.

GIVES ANY DESIRED SPEED

Among the many advantages of the Terry Paper Machine Drive is its ability to give higher paper speeds. It thereby enables the operators to obtain a wider speed range.

It can be built to give any speed throughout a 10 to 1 range. Whatever speed is most suitable for the stock is immediately available. All speeds from minimum to maximum are secured without steps. Unusually accurate regulation is obtained at all settings.

Why not investigate the possibilities of one of these dependable units? No obligation.

The **TERRY** *Steam Turbine Co.*

TERRY SQUARE, · · HARTFORD, CONNECTICUT

TURBINES, GEARS SHAFT COUPLINGS

inasmuch as neither set of figures includes such imports as may have cleared at Atlantic ports and been shipped inland by water or rail.

Such figures as these used by the Wisconsin manufacturer cover only a portion of the field and should not be used as at all indicative of the entire truth.

The statement was made at the Hearing Friday that the American Paper and Pulp Association favored depreciated currency legislation. I, of course, cannot speak for the American Paper and Pulp Association, but returns so far received from a questionnaire sent to those sponsoring the work of the Temporary Committee Opposing Tariff on Wood Pulp show that approximately one-half of those replying are members of the American Paper and Pulp Association and without exception they have stated that they were opposed to the American Paper and Pulp Association going on record as approving depreciated currency legislation which would place a tariff duty on wood pulp.

In conclusion I want to state that all the converting mills are seeking is fair play and an equal opportunity for every interest to compete for the paper business of the country. Don't discriminate between different groups of American producers, treat us all alike. Don't favor the Pacific Northwest at the expense of Massachusetts, Pennsylvania, New York, Connecticut, New Jersey, Illinois, Indiana and other important paper making states. Don't legislate half the paper mills out of business for the sake of transferring production from its established centers to new areas. Don't bring about a concentration in a few large companies and the ruin of many small companies.

And finally, if you decide that legislation is necessary on account of other foreign commodities, we ask you to leave wood pulp out, and to include paragraph 1716 in the list of paragraphs to be exempted from the provisions of the proposed bills.

Cassidy Heads Carthage Papermakers

CARTHAGE, N. Y., February 6, 1933.—The annual meeting of stockholders of the newly organized Carthage Papermakers, Inc., was held this week at which officers and directors for the year were chosen. Among the directors re-elected were Bert W. Thomas, Julius Miller, William J. Cassidy, Emory H. Jones and Charles J. Slack. Subsequently, the directors elected Mr. Cassidy as president and Mr. Jones vice-president. Mr. Thomas, who has served as secretary since organization, was also chosen to take over the duties as treasurer to succeed C. J. Slack. A report on the business of the company followed and a general discussion of the outlook for the year also took place.

Announcement was made that new schedules were placed in effect this week and from now on the plant will run five days weekly on a twenty-four hour daily basis. Notice of the increased operations was presented in the report issued to stockholders and the future outlook is considered good. The mill has been operating four days weekly since it was reopened early in December but an increasing volume of orders and excellent prospects resulted in the expansion program. A number of new hands have already been added to the original crew and others will be taken on if conditions permit.

Bids for Government Paper

WASHINGTON, D. C., February 8, 1933—The Aetna Paper Company has been awarded the contract for furnishing the Government Printing Office with 2,850 pounds (30,000 sheets) of 25 x 30" white offset paper at 5.25 cents per pound, bids for which were received on January 25.

Springfield Glazed Paper Co. Elects

SPRINGFIELD, Mass., February 4, 1933.—At the annual meeting of the stockholders of the Springfield Glazed Paper Company, the following officers were elected: President, Leo F. Supple; Vice-President and Assistant Treasurer, Eugene E. Giard, and Treasurer, Frank E. Talbot.

The Board of Directors is composed of the three officers mentioned above with the addition of Winsor B. Day and John D. Shuart.

Leo F. Supple has been active in paper merchandising for the past twelve years and until recently has been connected with the organization of the Whiting-Patterson Company. He will supervise the selling policies of the Springfield Glazed Paper Company and will devote his time towards the development and expansion of its sales.

Eugene E. Giard has long been connected with this company and for several years was the Chicago representative. Mr. Giard will have direct supervision over manufacturing and production and will, also, continue to contact accounts in the middle west.

Frank E. Talbot was formerly with Doubleday, Burnett & Snow, C. P. A., and will have charge of the financial affairs of the company.

This company has recently undergone a complete reorganization, both in management and financial structure. With the addition of increased working capital, the company is equipped to carry on, continuing to maintain the quality and service that has made the company a leader in the glazed paper industry for almost sixty years.

A Correction

Ralph R. Cole, comptroller of the Consolidated Water Power and Paper Company, Wisconsin Rapids, Wis., writes as follows:—

On page 13 of your January 19 issue of the PAPER TRADE JOURNAL there appears an article regarding a Consolidated income tax ruling. Apparently you are misinformed regarding this ruling as the facts are misstated.

The Assessor of Incomes made an additional assessment against stockholders of the Consolidated Water Power and Paper Company on approximately 76 per cent of the dividends received during the year 1925, contending that this proportion of the dividends were paid out of untaxed surplus. The Assessor's action was sustained by the Wisconsin Tax Commission. The Court ruled that only 1.56 per cent of these dividends have been paid from untaxed surplus and that the assessment should be revised accordingly. The Wisconsin Supreme Court sustained the ruling of the Court.

We realize that it is very difficult to obtain the exact facts regarding these cases, and we are giving you this information in the event that you want to make a correction.

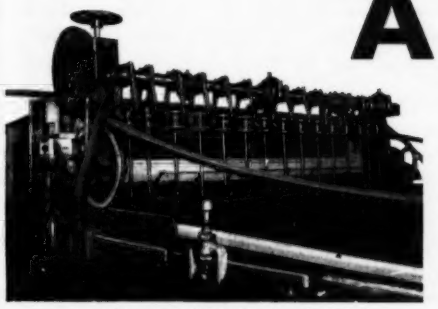
Japan To Remove Sur Tax on Wood Pulp

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., February 6, 1933.—The Japanese Tariff Investigation Commission has recommended removal of the customs surtax of 35 per cent of the duty, in so far as it applies to wood pulp and some other commodities according to a radiogram from Commercial Attache Butts at Tokyo.

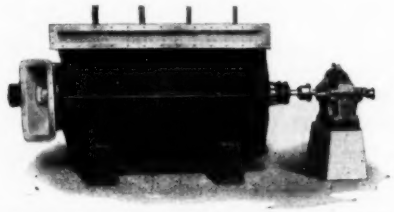
The surtax (approximately equal to the depreciation of the yen at the time that it was imposed) has been levied on most imports subject to specific rates of duty since June 16, 1932.

A NEW FIGHT IS AHEAD!



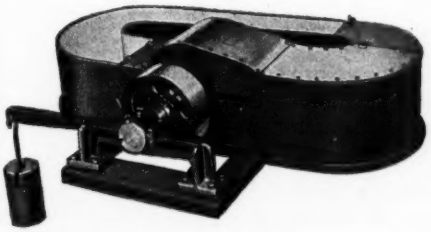
VALLEY VOITH STOCK INLET

Easily installed on Fourdrinier, Harper and Yankee Machines. Produces better quality paper at much lower cost through better formation, greater uniformity and faster running. Micrometer adjustment. Saves wear on wires. Deckles can be changed while machine is running. Over 300 installations in use.



VALLEY THUNE ROTARY PULP SCREEN

The first Rotary Screen to screen sulphate and sulphite pulp consistently clean. Uses flat slotted plates, the same type as used on regular diaphragm flat screens. A tried and proven machine.



VALLEY LABORATORY EQUIPMENT

Provides the most modern means for developing new products, improving old products and daily production control. Complete equipment includes Beater, Sheet Mould, Hydraulic Press, Hot Plate, Size Tester, Drying Oven, Flat Screen, Couch Roll, Jordan, Clay Erosion Tester and Bleachability Tester.

NIAGARA, VALLEY HIGH SPEED AND HOLLAND BEATERS

Can give you better beating results. They save power, space, and installation costs.

THE business recovery—which is now definitely under way—is going to be no "bed of roses" for paper and pulp manufacturers.

It is the beginning of a new fight—a new battle for markets, trade prestige, and sales volume—a new struggle where the iron hand of competition will rule more sternly than ever.

Everything points to a continued low level of commodity prices. Everything points to a gradual increase in wage levels. Which means that mills must find their earnings in reduced production costs as they pertain to machinery and equipment.

There is no use depending upon "improved conditions." Because the only way any mill can hope to materially benefit from the improvement in *business* conditions is to have the type of modern equipment that can turn out *better quality for less money.*

PRICE and QUALITY are today's strongest order-getting arguments, and modern low-cost manufacturing methods and machinery are necessary in order to provide these powerful sales weapons.

Your inquiries on any of the advanced, cost-reducing equipment we manufacture will be given prompt and careful attention. Address the Valley Iron Works Co., Appleton, Wisconsin.

VALLEY
IRON WORKS COMPANY

Appleton, Wisconsin

New York Office: 350 Madison Ave.
Canadian Representatives: Pulp & Paper Mill Accessories, Ltd., Montreal, Canada

Beaters • Jordans • Voith Stock Inlets • Deckers
Pumps • Flat and Rotary Screens • Laboratory Equipment
Screw Presses • Plug Valves • Roll Wrapping Machine

PAPER TRADE JOURNAL
ESTABLISHED 1872

Published at 34 North Crystal St., East Stroudsburg, Pa. Executive and Editorial Offices, 15 West 47th St., New York, N. Y.

Henry J. Berger
Editor

Ronald G. Macdonald
Editor Technical Section

Herbert J. Laughton
Associate Editor

Thomas J. Burke, C. A.
Editor Cost Section

Lynne M. Lamm,
Washington Correspondent

Price, Per Copy, 10 Cents

United States, Per Annum, $4.00
Canada, including tax, $7.50; Foreign Countries in Postal Union, $6.00

Member Audit Bureau of Circulations

Vol. XCVI New York, February 9, 1933 No. 6

COMING EVENTS

American Paper and Pulp Association, Fifty-Sixth Annual Convention and Meeting, Pennsylvania Hotel, New York, February 13-16. Luncheon, Thursday, February 16.

National Paper Trade Association of the United States, Convention, Pennsylvania Hotel, New York, February 13-15. Luncheon, Wednesday, February 15.

Technical Association of the Paper Industry, Convention, Pennsylvania Hotel, New York, February 13-16. Luncheons, Wednesday, February 15 and Thursday, February 16.

Salesmen's Association of the Paper Industry, Annual Meeting, Pennsylvania Hotel, New York, Tuesday, February 14. Luncheon, Tuesday, February 14.

New York Association of Dealers in Paper Mills' Supplies, Annual Banquet, Hotel Commodore, New York, Wednesday, February 14.

NEW INVESTIGATIONS OF PULP MILL WASTES

The department of Chemistry and Chemical Engineering of the University of Washington is engaged in organizing an extensive program of research dealing with the utilization of the waste liquor of the sulphite pulp mills. This liquor contains in soluble form a large percentage of the wood used in making pulp, and at present is not utilized in industry. Hundreds of thousands of tons of wood in this waste are washed into rivers and watercourses in the United States annually.

While in the East last year, Dr. H. K. Bensen had requested the detail of several scientists from governmental laboratories to the University of Washington to work on the utilization of this waste at the beginning of this year. The contraction of work on account of the economic program made it necessary to abandon this part of the research. However, through the aid of advanced students and assistants the University has started the work of its own accord. Dr. Kenneth A. Kobe is conducting an experimental study of evaporation by submerged combustion which promises to greatly reduce corrosion and scaleforming in the usual type of evaporators. He is assisted by Frank H. Conrad and Frank C. Rogers. Dr. Benson has been interested in analytical methods for the determination of lignin one of the main constituents in the waste liquor, and has been assisted in these studies by O. K. Chapman and J. R. Hendrickson. The work of the latter will be submitted soon at a meeting of the Technical Association of the Pulp and Paper Industry as a tentative method for use by the pulp testing committee.

Two new lines of work are being taken up at the beginning of the present quarter. Working under a grant of the National Research Council of Washington, D. C., Dr. Benson will be provided with the assistance of A. M. Partansky, a graduate student, to make a study of the biochemical decomposition of sulphite waste. In this investigation staff members of the Bacteriology department will also assist. It will extend over a full year and its object will be to study the rate of disappearance of organic matter in marine sediments.

Another new study will be undertaken by R. P. Erwin, a senior in Science, who will make a study of the tanning value of the waste liquor.

It is expected that with improvement of financial conditions in industry, the latter will contribute one or two scientists in this investigation and under more favorable conditions, the cooperation of governmental laboratories is probable.

In his recent book on Chemical Utilization of Wood, published by the National Committee on Wood Utilization, U. S. Department of Commerce, Dr. Benson reviews this whole matter quite fully and assures the reader that this problem is not unsolvable in this country if the procedure of other countries is recognized and if the methods of utilization be rightly coordinated with each mill attempting such a program.

NEWS PRINT PRODUCTION

Production of news print in Canada during December 1932 amounted to 138,682 tons and shipments to 140,770 tons, including an estimate for one company whose exact figures were not reported, according to the News Print Service Bureau. Production in the United States was 80,075 tons and shipments 79,002 tons, making a total United States and Canadian news print production of 218,757 tons and shipments of 219,772 tons. During December, 21,704 tons of news print were made in Newfoundland and 902 tons in Mexico, so that the total North American production for the month amounted to 241,363 tons.

Taking the production of the regular news print mills reporting monthly and making necessary year end corrections and adjustments, the total North American output of news print paper in 1932 is calculated to have been 3,198,622 tons, of which 1,907,566 tons were made in Canada, 1,006,569 tons in the United States, 271,804 tons in Newfoundland and 12,683 tons in Mexico. The Canadian output was 14.1 per cent less than in 1931, that in the United States 13.0 per cent less, with a loss of 7.9 per cent in Newfoundland and 16.5 per cent loss in Mexico, making a total continental decrease of 499,446 tons, or 13.3 per cent.

Stocks of news print paper at Canadian mills are figured at 42,337 tons at the end of December and at United States mills 21,783 tons, making a combined total of 64,120 tons compared with 86,913 tons on December 31, 1931.

To Perpetuate Wheelwright Lines

The Mead Sales Corporation, 230 Park Avenue, New York has sent out the following notice:—

"In cooperation with the receivers of the George W. Wheelwright Paper Company who have been ordered by the Court to close the Hardwick mill, we have arranged to protect and perpetuate the stock lines as well as the many specialties you have entrusted to the Wheelwright Company for manufacture over many years. The Hardwick inventory has been acquired and these lines will be distributed through the Wheelwright agents as heretofore.

"These lines will be manufactured by Dill & Collins, Inc., of Philadelphia, whose reputation for high grade papers is well known.

"Under the court order the Leominster mill of the George W. Wheelwright Paper Company, producing Bristols, Indexes and Blanks will continue to operate under the direction of Mr. George W. Wheelwright. The sales will be handled by a new company to be known as Wheelwright Papers Inc. E. W. Pierce, R. N. Finley and Butler Cox of the Wheelwright sales force have joined the new company and will continue to handle the distribution of both the Book and Bristol lines.

"In making these arrangements, we have had in mind the following:—(1) Prevention of forced liquidation of the Hardwick inventory, which we feel would be destructive to prices and orderly business at this time; (2) a protection of your present investment in these lines; (3) a continuation without interruption to you of the business which you have developed and of the relations with the same sales staff."

Du Pont Brings Two Suits

The Du Pont Cellophane Company Inc., has filed suit in the United States District Court for the Southern District of New York against S. H. Kress, Inc., chain store merchants, of New York City and elsewhere, and also filed suit in the United States District Court for the Eastern District of New York against Waxed Products Company, Inc., wholesalers, of Brooklyn, N. Y., alleging that these concerns had sold as "Cellophane" products not made by the Du Pont Cellophane Company.

The complaint states that since the introduction of cellulose film into the United States, the Du Pont Cellophane Company and its predecessors have had exclusive right to the word "Cellophane" as a trade mark for this product. These suits have been instituted for the purpose of maintaining the exclusive right of the Du Pont Cellophane Company in its trade mark "Cellophane" and to prevent the use of such trade mark upon similar material manufactured by its competitors.

Strathmore Paper Co. Elects Officers

WEST SPRINGFIELD, MASS., February 6, 1933—The Strathmore Paper Company, with mills at West Springfield and Woronoco Mass., elected the following officers and directors at its annual meeting:

President, H. A. Moses; vice-presidents, J. D. Zink, L. E. Maglathlin, C. M. Bryan and W. O. Johnson; treasurer, G. E. Williamson; assistant treasurers, A. E. Shattuck and F. N. Bridgham; clerk, J. C. Sanburn. Directors: the above officers and C. A. Russell of Haddam, Conn.

Of the above vice-presidents, Mr. Maglathlin has for some time been sales manager, C. M. Bryan manager of West Springfield mills and W. O. Johnson manager of Woronoco Mills. J. D. Zink has been president of the Old Colony Envelope Company of Westfield, Mass.

L. R. Palmer Opposes Tariff Bill

[FROM OUR REGULAR CORRESPONDENT]

SYRACUSE, N. Y., February 6, 1933—In an address here during the past week before the New York State Publishers Association, L. B. Palmer, general manager of the American Newspaper Publishers Association, declared that the passage of a tariff bill now pending before Congress not only would increase the cost of newspaper production but also would legislate two-thirds of an industry out of existence for the benefit of the other third. He stated that the proposed legislation was the Hill bill and that it would place a duty of twenty-five per cent upon importations of news print from Canada and larger amounts upon foreign shipments. He brought out that the principal proponents and opponents of this legislation are not divided, as might be assumed, into domestic and foreign manufacturers, but instead are two domestic groups.

"On one side there is a group of about 200 manufacturers operating pulp mills or self-contained paper mills, producing and selling pulp," he said, "while on the other side there is a group of some 550 converting mills which purchase but do not produce wood pulp. Should a duty be levied on wood pulp those converting concerns would be forced to obtain their entire pulp supplies at a price which would make it impossible for them to continue competition with the mills making their own pulp. Congress would then be in the position of legislating two-thirds of an industry out of existence for the benefit of the remaining third."

Dr. Klein to Speak at Paper Luncheon

S. L. Willson, president of the American Paper and Pulp Association, takes pleasure in announcing that Dr. Julius Klein, Assistant Secretary of the United States Department of Commerce, will speak upon current economic problems at the Association's Luncheon to be given at the Hotel Pennsylvania, on Thursday, February 16.

Dr. Klein needs no introduction to the paper industry for he has been associated with industrial development for a number of years. His official activities in the United States Department of Commerce have given him an exceptional opportunity to see clearly the major problems that face American business. His analysis of the scope of these problems and of the necessary solutions is not only sound but practical.

In his address, Dr. Klein will cover a number of important aspects of American business, in which the pulp and paper industry is particularly interested.

Reservations for the Luncheon for manufacturers and their guests can be made directly with the American Paper and Pulp Association, either at its headquarters, 370 Lexington Avenue, New York City, or the registration desk at the Hotel.

To Open Paper Department at Eugene

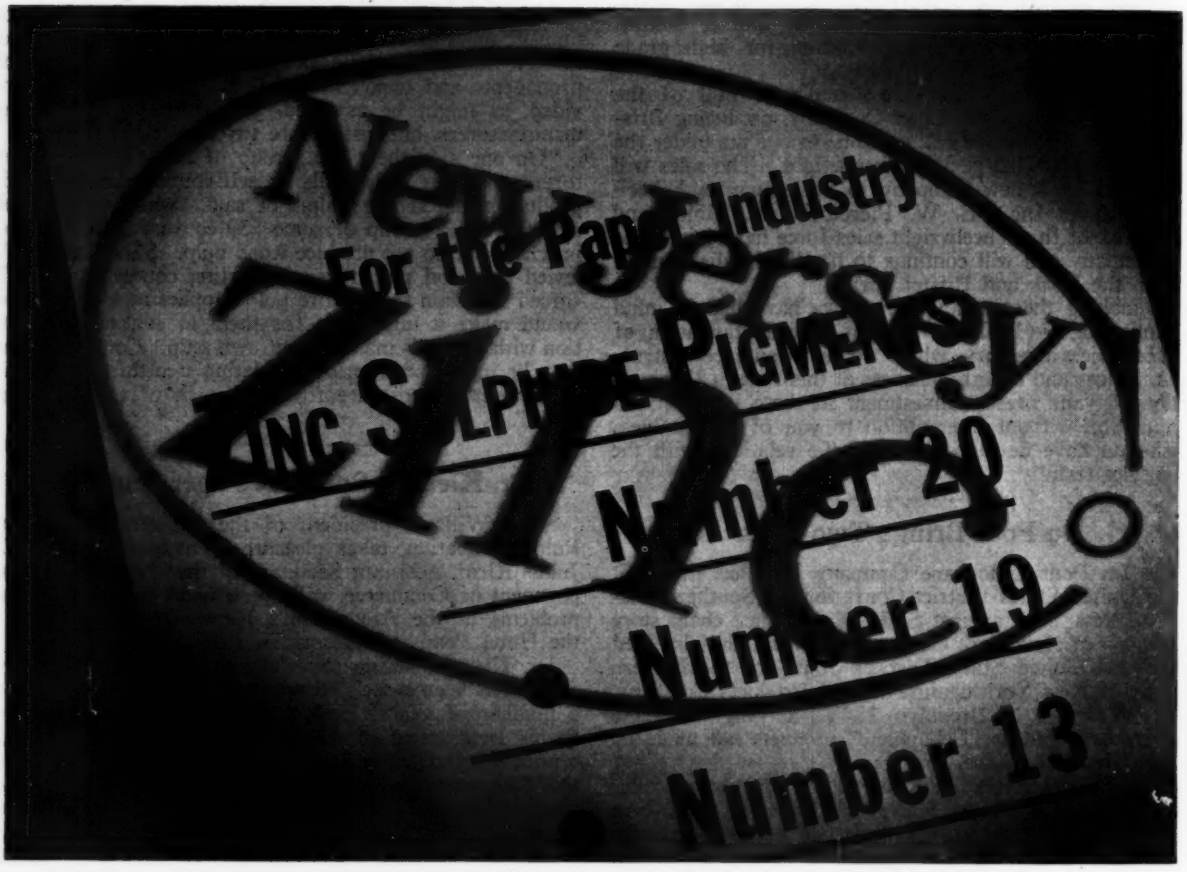
[FROM OUR REGULAR CORRESPONDENT]

EUGENE, Ore., February 4, 1933—Installation of a wholesale paper department in the Pioneer Grocery Company has been announced by officials of the concern here. Z. N. Agee, for 17 years connected with the Zellerbach Paper Company, and for several years manager of the local branch of that company, is manager of the new venture.

Fine and course papers and stationery will be carried by the company whose territory embraces the district south of Salem and north of the California line this side of the mountains.

Now Available . . .

HIGH OPACITY



AT MODERATE COST...

From the world's largest laboratories devoted to the perfection and performance of white pigments comes a range of **ZINC SULPHIDE PIGMENTS** with Zinc Sulphide present in different amounts to provide various degrees of opacity. . . . Warehouse stocks convenient to your mills.

A DISCUSSION OF YOUR OPACITY PROBLEMS IS INVITED

Established 1848

New Jersey Zinc

THE NEW JERSEY ZINC COMPANY

160 Front Street, New York City
205 Wacker Drive, Chicago, Ill.
1531 Guardian Building, Cleveland, Ohio
1105 Merchants Exchange Building, San Francisco, California

Section of the
Technical Association of the Pulp and Paper Industry
Edited by Ronald G. Macdonald, Secretary

The Surface Treatment of Acoustic Tile

Herbert J. Plagge[1], Lionel K. Arnold[2] and Edward R. Whittemore[3]

Abstract

A constructive quantitative and qualitative study of surface treatment that can apply to any of the common fiber boards. It is shown that acoustic tile has a specific absorption coefficient, characteristic of the fiber mass and this may be altered to some extent by such surface treatment as bevelling and grooving.

Introduction

It is commonly recognized that materials for sound absorption require porosity. The pistonlike action of sound waves in the pores develops friction and causes sound absorption. Fibrous materials, since their particles do not lend themselves to the compact arrangement characteristic of granular particles, have high porosity and a high sound absorption coefficient.

Acoustic studies have been directed to acoustic measurement principles, acoustic design, and sound correction. While a great many absorption materials have been tested, the practical acoustic engineer has bought his materials wherever he could obtain the required coefficient. Some manufacturers have recognized the advantage of high porosity for high absorption, but no constructive studies seem to have been made on degree of porosity, or to the degree and type of surface treatment. The present study has been made on one specific type of fibrous material to determine the effect on its coefficient of absorption of several types of surface treatment and the degree of the treatment. The study was planned in progressive steps so arranged that the effect of beveled area, number of grooves, depth of grooves, and width of grooves on the coefficient of absorption could be determined by actual test after each alteration.

Material for Study

The material for this study was cornstalk fiber prepared by the usual process for cooked cornstalk pulp used in the local semi-commercial insulation board laboratory. (1) Commercial acoustic tile are often built up of glued laminations of about one-half inch material. This either offers an undesirable glue strata at half inch intervals, or, in the case of spot-glued tile, results that deep grooves cut the tile in pieces. The tile for this study was homogeneous material, one inch thick and 12 inch squares. For the method used at least 75 square feet of tile were required.

[1] Associate professor of physics, Iowa State College.
[2] Assistant chemical engineer, Engineering Experiment Station, Iowa State College.
[3] Member TAPPI, chemical engineer, U. S. Bureau of Standards, Ames, Iowa.

Equipment

The acoustics laboratory of the physics department of Iowa State College had a net volume of 4241.2 cubic feet. Using accepted sources, (2) the room contained 49.28 absorption units. The sound source was a radio oscillator operating at 512 cycles per second and at a 60 decibel sound level. The sound was keyed from an observer's cabinet to a horn-type loud-speaker both located inside the test room. Reverberation time was taken by ear and stopwatch.

Procedure

Table I. outlines the plan of progressive surface treatment. The tile was prepared for the particular step in the study, and was then laid flat on the floor of the acoustics laboratory.

TABLE I

A. Test 1. Untreated tile.
B. Tests 1, 2, 3, and 4. Increasing number of beveled tile.
C. Tests 4, 5, and 6. Increasing number of grooves per tile.
D. Tests 4, 5, 8 and 4, 6, 7 gave the effect of increasing depths of grooves 0, ¼, and ⅜ inch on ten and on twenty grooves per tile, respectively.
E. Tests 4, 8, 10 and 4, 7, 9 gave the effect of increasing widths of grooves 0, ⅛, and ¼ inch on 10 and 20 grooves per tile, respectively.

The operator made 50 observations of the reverberation time, changing the direction of the sound source after each ten observations. Using exactly the same method, 50 observations of the reverberation time were then taken on the empty room to compensate for the day to day changes in atmospheric conditions, and to compensate for the personal error of the observer.

Calculations

The theoretical reverberation time of the empty acoustics laboratory was calculated from Sabine's formula:

$$T = .05 \text{ Volume/absorption units} = .05 \text{ (4241.2 cu. ft./49.28 units)} = 4.30 \text{ seconds.}$$

The calculation was facilitated for absorption coefficient by a formula derived from Sabine's formula for these tests:

$$C = 49.28 \ (T_e - T_t)/T_t \times A_t - .030$$

C is the coefficient of the material tested, T_e is the reverberation time of the empty room, T_t is the reverberation time determined in the test, A_t is the area in test, and .030 is the absorption coefficient of the varnished oak floor covered by the material being tested.

Discussion

Table II. lists the values of absorption coefficient determined in each of these tests. Curves 1, 2, 3, and 4 are the graphical representation of the studies outlined in Table I.

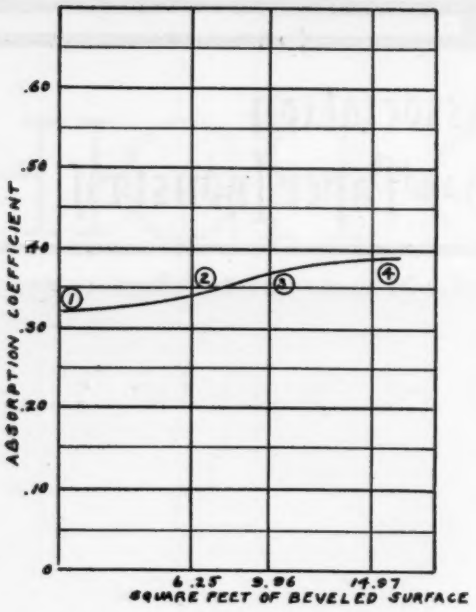


FIG. 1

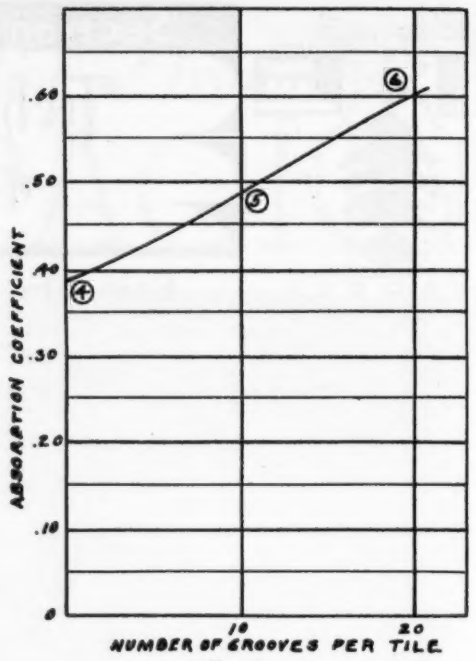


FIG. 2

Fig. 1 shows graphically the relation between absorption coefficient and increasing area of beveled surface. The actual increase in absorption coefficient was more than three times that accounted for by increased area. Sanded boards where the hard surface had been removed showed no perceptible increase in coefficient. It was then evident that the open end grain and the 45 degrees slope of the bevel surface gave marked absorption.

Fig. 2 shows graphically the relation of the absorption coefficient to the number of grooves per tile, a linear relation. In this study the actual increase in the coefficient was less than the theoretical increase due to increased area, evidencing that open end grain perpendicular to the tile surface was inferior to the beveled surface.

Fig. 3 is the graphical relation of absorption coefficient to increasing depth of grooves. The data indicates that greater than ¼ inch depth on 1 inch tile actually decreases the coefficient. This may be due to the reduced thick-

TABLE II

Test No.	Coefficient	Description
1	.318	Plain 1 inch tile
2	.338	42 per cent beveled, 58 per cent plain tile
3	.369	67 per cent beveled, 33 per cent plain tile
4	.391	100 per cent beveled
5	.487	Beveled tile, 10 grooves, ⅛ inch wide, ¼ inch deep
6	.602	As Test 5, 10 added grooves at 90 deg.
7	.593	As Test 6, except grooves ⅛ inch deep
8	.473	50 per cent as in Test 7, 50 per cent plain board
9	.580	As in Test 7, except ¼ inch wide grooves
10	.551	50 per cent as Test 9, 50 per cent plain tile

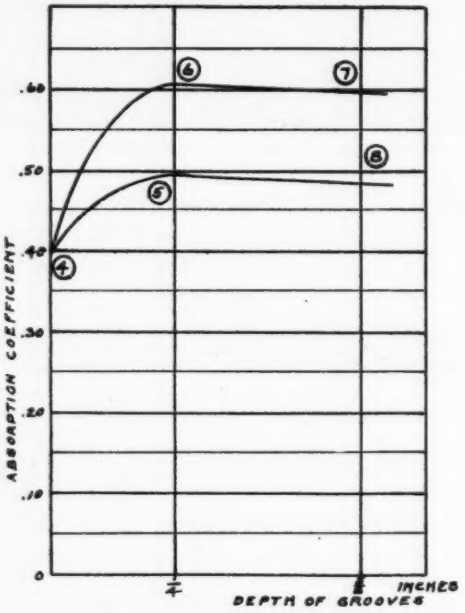


FIG. 3

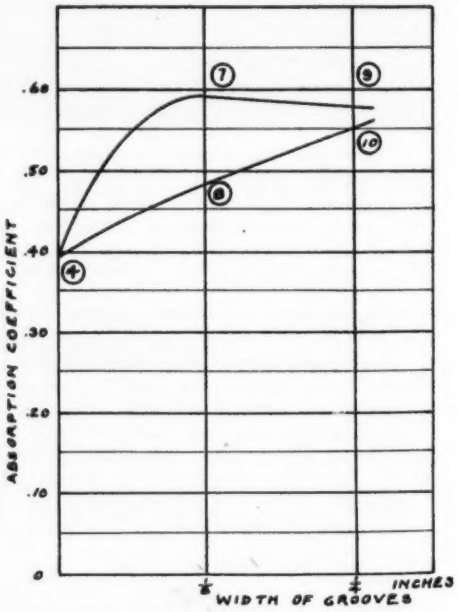


FIG. 4

ness of material between the bottom of the groove and the back of the tile.

Fig. 4 is the graphical relation between absorption coefficient and the width of the grooves. It shows that with 10 grooves a ⅛ to ¼-inch widening of the grooves gives a decided increase in absorption, but for 20 grooves a like change in width of grooves gives a slight decrease.

Conclusion

Several types of surface treatment increase the coefficient of absorption of acoustic tile, but with any of these types of treatment, the coefficient approaches a limiting coefficient value characteristic of the fiber mass. Table III lists the percentage increase in coefficient due to treatment of one square inch of the original tile altered:

TABLE III

Bevel	1.095	per cent per square inch
Number of grooves	1.80	per cent per square inch
Width of grooves	1.723	per cent per square inch
Depth of grooves	1.80	per cent per square inch

Acoustic tile can be designed by a proper balance of area of bevel, number of grooves, width of grooves, and depth of grooves, to have any specific absorption coefficient over a wide range of values. This range of coefficient is limited by a coefficient characteristic of the unaltered original surface of the tile as a low value, and for a high value the limit is a coefficient characteristic of the fiber mass.

Literature Cited

(1). Bulletin 102: 42 ¶Bf; Engineering Experimental Station, Iowa State College.
(2). Acoustics of Buildings, by F. R. Watson, University of Illinois. Bureau of Standards, Circular 278, Department of Commerce, Washington, D. C. (July 12, 1930).

Louis Marshall Memorial Dedication

The Louis Marshall Memorial Science Building of the New York State College of Forestry at Syracuse, N. Y., will be dedicated Thursday, February 23. Following is the program:

MORNING

Addresses by leaders in forestry education and the field of forestry, 10 o'clock.

Luncheon in the Louis Marshall Memorial building.

AFTERNOON

Inspection of the building 2:00 o'clock.

Dedication exercises, 3:00 o'clock.

Presentation of the building by Commissioner of Education, Frank P. Graves.

Acceptance for the College by President of the Board of Trustees, Hon. Alfred E. Smith.

Acceptance for Syracuse University by Chancellor Charles W. Flint.

Dedication address—to be announced later.

EVENING

The annual Forestry Student Club banquet, 7:00 o'clock, Hotel Syracuse, to which guests attending the dedication are invited. Tickets $1.50.

Lake States TAPPI Meeting

The program of the February meeting of the Lake States Section of Technical Association of the Pulp and Paper Industry on Tuesday, February 7 was as follows: A symposium on the subject of stock preparation consisting of the following papers: "Rod Mills for the Paper Industry," by E. F. Stemmler of the Mining Machinery Division of the Allis-Chalmers Manufacturing Company, Milwaukee, Wis.; "Use of the Jordan in Stock Preparation," by W. A. Gocke, Shartle Brothers Machine Company, Middletown, Ohio; and "A Study of the Beater," by Paul Boronow of the Valley Iron Works Company, Appleton, Wis.

Kalamazoo TAPPI Meets

The January meeting of the Kalamazoo Valley Section of the Technical Association of the Pulp and Paper Industry was held on Thursday evening, January 26 at the Columbus Hotel, Kalamazoo, Mich. This was a combined meeting held with the Kalamazoo Valley Asso. of Purchasing Agents and the Engineers Club of Kalamazoo.

The speaker of the evening was L. D. Staplin, of the Carbonite Metal Company, Ltd., Chicago, Ill. and his subject was "Government Expense and Depression." Mr. Staplin was chosen by the American Taxpayers League of Washington, D. C., to deliver several addresses over the N. B. C. Broadcasting chain during November and December on this subject. Facts and figures were given by the speaker showing the enormous increase of the expenditures of several departments of the government together with the increase in taxes to take care of this increased expenditure. This talk was very interesting and instructive and was well enjoyed by everyone present.

A musical program by a group of inmates of Jackson state prison who were accompanied by Mr. Brundage, state parole commissioner, was presented after the speaker of the evening. This program consisted of songs by a quartette, vocal solos by the different members of the quartette, violin solos and a piano solo. This program was very well presented and enjoyed by all.

The attendance at this meeting was very good, about one hundred and fifty being present. As this was a combined meeting no business was transacted and after the musical program the meeting was adjourned.

Technical Control and Management

During the annual meeting of the Technical Association of the Pulp and Paper Industry on Wednesday afternoon, February 15, at 2 o'clock, a symposium for the discussion of the Application of technical control for pulp and paper manufacture will be held by the Management Methods Committee.

Technical Control depends on:

a—Discovery of all factors influencing quality or quantity.

b—Selection of essential factors.

c—Determination of standards or limits for essential factors.

d—Current reports to discover variations from standards.

e—Allocation of responsibility, with authority to make correction, and maintain standards.

Short talks will be given by members of the Committee on the control of pulp manufacture, beater room methods, Fourdrinier and cylinder machine operations, and control by standard costs.

An open, informal discussion, carried along by questions and opinions is very much to be desired, so that useful information and experience may be contributed through this phase of our Annual Meeting.

Syracuse Foresters to Meet in New York

Graduates of the Pulp and Paper Department of The New York State College of Forestry at Syracuse, and forestry graduates of this institution who are associated with companies engaged in the manufacture of paper, will hold their fourth annual luncheon at the time of the Paper convention in New York, February 13-16. The luncheon will be held Tuesday noon, February 14, at 1 o'clock at the Fraternities Club Building, 22 East 38th Street. William R. Willetts, 26, is chairman of the luncheon committee and reservations for the luncheon should be forwarded to him at 609 Madison avenue, Plainfield, N. J.

White Papers from Southern Pines

III. Pulping Longleaf Pine for Strong, Easy-Bleaching Pulp

By Mark W. Bray[1] and C. E. Curran[2]

Abstract

The Forest Products Laboratory pulping process for the production of strong easy-bleaching sulphate pulps, and the two-stage chlorination-hypochlorite bleaching method for the production of light-colored sulphate pulps without material strength reduction, were applied to longleaf pine with good results. The effect on yield, strength, and bleach requirement of rapid, medium, and slow-growth wood was determined. Black or spent sulphate liquor in admixture with fresh sulphate cooking liquors was used without deleterious results in pulping longleaf pine for the production of easy-bleaching pulps. Wrapping, bond, writing, book, and glassine papers were produced from the longleaf pine pulps.

Introduction

In continuation of the pulping studies at the Forest Products Laboratory for the production of high grade papers, efforts were directed to longleaf pine *(Pinus palustris)*, another species of the southern yellow pine group. This species already serves the South both as a turpentine and lumber producer. Previous work at the Laboratory *(1)*, *(2)*, *(3)*, *(4)* had indicated the possibilities of making white papers of considerable strength from loblolly pine through slight modifications of cooking and bleaching in the standard sulphate process. These modifications require the use of more chemical per unit weight of wood charged, but a lower concentration of chemical in the cooking liquor than is customary in commercial practice. This method of pulping, combined with a two-stage bleaching operation in which the sulphate pulps are first chlorinated with chlorine water, washed with water, and subsequently bleached with hypochlorite accomplishes not only the production of lighter colored pulps from the Southern pines than was possible heretofore, but also affects a considerable conservation in the strength of the bleached products.

Since young second-growth longleaf pine offers greater possibilities than virgin-growth longleaf as raw material for the southern paper industry, this study was limited to the pulping of longleaf pine of not more than 40 years of age that has come up in old or abandoned fields.

Materials

Selection

Previous investigations *(5)* at the Forest Products Laboratory have shown considerable differences, especially as regards density, in the wood of the second-growth southern yellow pines with variation in the conditions under which the trees are grown. In consideration of this fact the wood for the studies here reported was selected so as to show any differences that might arise through the use of wood grown under different silvicultural conditions as well as to determine the adaptability of longleaf pine to the modified sulphate pulping and bleaching methods.

Representative plots *(6)* were staked out in areas containing 350, 600, and 1,200 trees per acre from a 10-acre stand located near Walnut Hill, Escambia County, Florida. The area had been used for farm crops until the last 35 or 40 years. The age of the trees as shown by the number of annual rings on the stumps ranged from 30 to 35 years. The topography of the areas from which the samples were taken is fairly level. Growth conditions, with the exception of tree spacing, were similar throughout all of the plots.

To distinguish the trees taken from the several plots, serial numbers were assigned as follows: 100 to designate slow, 200 to designate medium, and 400 to designate rapid growth. The logs in the 100 series, which was representative of closely-grown and consequently slow-growth trees, were selected from the plot containing approximately 1,200 trees per acre; the trees of the 200 series, representing medium-growth material, were taken from the area of 600 trees per acre; and the logs of the 400 series, representing rapid-growth wood, were selected from the wide-spaced area containing 300 trees per acre. (Fig. 1.)

All logs, with the exception of those designated as top logs, in the 200 series, were taken from the first 18 feet above a 12-inch stump and were designated as butt logs. The top logs were obtained from the upper part of the bole measuring 18 feet downward from a 3-inch diameter. The middle portions of the trees were discarded.

Physical and Chemical Evaluation of Pulpwood

Upon their arrival at the Forest Products Laboratory in November, 1928, about two weeks after cutting, the several lots of wood from each plot were evaluated separately according to the Laboratory method for recording and evaluating the quality of pulpwood. *(6)* *(7)* A summary of this evaluation is given in Table I.

Preparation of Material

Prior to pulping, 4-foot bolts from each lot were barked and chipped in a small chipper capable of producing chips substantially the size and the shape of those customarily used in commercial operations. The sawdust, large knots, and oversized chips and slivers were removed by screening on a coarse (4 meshes to the inch) screen.

Experimental Procedure

Having previously established the optimum cooking con-

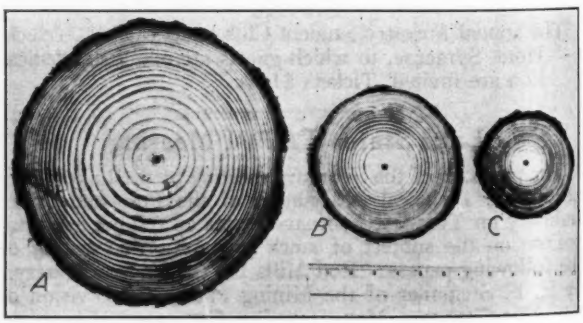


Fig. 1

Representative specimens of the three lots of longleaf pine pulpwood of even age. A. Wide forest spacing—rapid growth. B. Medium spacing—medium growth. C. Close space—slow growth.

[1] Member TAPPI, chemist, Forest Products Laboratory, Madison, Wis.
[2] Member TAPPI, principal chemist, in charge, section of pulp and paper, Forest Products Laboratory, Forest Service, U. S. Dept. of Agriculture, Madison, Wis.

ditions for the production of easy-bleaching sulphate pulps from loblolly pine, *(2)* the pulping procedure for this investigation was limited to these conditions. Any variation in procedure was directed to the bleaching operation, stuff preparation, or treatment on the paper machine. For each of the pulping experiments, 90 pounds of wood (oven-dry basis) was digested for 3¾ hours in a rotary digester. *(8)* Indirect steam heating was employed for 1½ hours during the period of rising temperature and pressure, after which direct steam heating maintained a maximum temperature of 170 deg. C. for 2¼ hours.

When the digestions had proceeded for the predetermined period the content of the digester was blown into a blow pit where the pulp was washed with hot water to remove spent liquors. The yield was determined from the total weight of pulp run into wet lap of known moisture content.

The bleach requirement of the pulps was determined by bleaching a small sample with bleaching-powder solution in accordance with the Forest Products Laboratory method. *(7)*

The color of the bleached and of the unbleached pulps was determined by means of the Hess-Ives tint photometer. *(9)* The strength development of the crude pulps was determined by means of the pebble-mill method *(7)* employed at the Laboratory. Sufficient test sheets were made to permit the determination of the bursting, folding, tensile, and tearing strengths. The test sheets were air dried at approximately 90 deg. F., and were later seasoned and tested in a room in which a temperature of 72 deg. F. and a relative humidity of 65 per cent were maintained constant.

Pulping Experiments

Four series — a total of 13 digestions — were made on the several lots of longleaf pine pulpwood, each series differing from the other only in regard to the wood employed. Since economy in commercial practice requires the use of some black or spent liquor for diluting fresh white liquor to the proper concentration, a number of digestions were made in which this was done and the influence on the production of bleachable sulphate pulps noted. In all other digestions (Table II) water was used for diluting the fresh cooking liquors. The following cooking conditions were employed:

1. Weight of chips charged, oven-dry	90 pounds
2. Caustic soda (calculated as NaOH) per hundred pounds of oven-dry wood charged	25.65 pounds
3. Sodium sulphide (calculated as Na_2S) per hundred pounds of oven-dry wood	8.55 pounds
4. Total chemical added per hundred pounds of oven-dry wood	34.2 pounds
5. Concentration at the beginning of the digestion	
NaOH	52.5 grams per liter
Na_2S	17.5 grams per liter
Total	70.0 grams per liter
6. Volume of cooking liquor per hundred pounds of wood charged at the beginning of the digestion	58.6 gallons
7. Period of increasing temperature and pressure	1½ hours
8. Maximum temperature 170 deg. C., corresponding to a steam pressure of 100 pounds per square inch above atmospheric pressure.	
9. Duration of digestion at maximum temperature and pressure	2¼ hours
10. Total cooking time	3¾ hours

Samples of black liquor were taken immediately before blowing the digestion by inverting the digester and drawing off black liquor through the relief line, which passes through a cooled condenser.

The yield, strength, and bleaching data are given in Table II.

TABLE I.—PHYSICAL AND CHEMICAL EVALUATION DATA OF SECOND-GROWTH LONGLEAF PINE PULPWOOD

Characteristic determined	Growth conditions: Rapid growth, butt logs Series 400	Medium growth, butt logs Series 200	Medium growth, top logs Series 200	Slow growth, butt logs Series 100
PHYSICAL CHARACTERISTICS				
Number of pieces in cord, unbarked	44	89	175	232
Weight of cord as received, unbarked ..... pounds	6,245	6,374	5,967	6,152
Weight of cord as received, barked ..... pounds	5,615	5,714	5,236	5,310
Weight of cord, barked and oven-dry (weight peeled × oven-dry factor) ..... pounds	2,910	2,920	2,420	2,890
Weight of cord, barked (solid volume × density) ..... pounds	2,680	2,870	2,490	2,810
Solid wood content of cord by water displacement ..... cubic feet	78.4	82.3	81.5	76.2
Loss in weight through barking (logs) ..... per cent	10.1	10.4	12.3	13.7
Loss in weight through barking (oven-dry discs) ..... per cent	11.8	8.2	10.2	13.2
Loss of volume through barking (discs as received) ..... per cent	13.0	9.1	10.8	14.4
Average specific gravity (weight oven-dry ÷ volume green)	.548	.558	.490	.590
Average specific gravity (weight oven-dry ÷ volume oven-dry)	.606	.636	.550	.678
Average weight per cubic foot (weight oven-dry ÷ volume green) ..... pounds	34.2	34.8	30.6	36.9
Average moisture in material as received—				
Unbarked discs ..... per cent	46.5	48.2	53.0	44.3
Barked discs ..... per cent	48.2	48.9	53.8	45.5
Bark ..... per cent	37.7	39.3	46.6	36.0
Diameter of barked logs—				
Average ..... inches	9.3	6.5	4.8	4.2
Maximum ..... inches	12.8	7.6	5.7	5.2
Minimum ..... inches	7.3	5.4	3.7	3.4
Average diameter of discs ..... inches	9.2	6.6	4.8	4.2
Average ring count ..... annual rings	25.3	28.0	19.3	26.4
Growth rate ..... rings per inch	5.5	7.0	8.0	12.8
WEIGHT OF FIVE-EIGHTHS INCH CHIPS				
Weight of wet chips as received [1] ..... pounds	33.7	34.6	33.1	34.1
Moisture content as received ..... per cent	46.3	46.7	51.6	41.1
Weight per cubic foot of wet chips as received ..... pounds	27.6	28.3	27.1	28.0
Weight per cubic foot of oven-dry chips ..... pounds	14.7	15.0	13.1	16.4
Weight per cubic foot of oven-dry chips, the volume of which was determined at the air-dry condition ..... pounds	16.4	16.3	14.0	17.7
Moisture content of chips dried in air ..... per cent	6.8	10.9	9.9	9.9
CHEMICAL PROPERTIES				
Cellulose ..... per cent	55.0	61.3	57.7	60.3
Alpha-cellulose ..... per cent	.....	.....	42.0	44.2
Lignin ..... per cent	30.9	29.8	.....	31.8
Total pentosans ..... per cent	11.4	12.4	13.5	12.7
One per cent NaOH solubility ..... per cent	14.1	10.2	11.4	11.6
Hot water solubility ..... per cent	4.3	1.9	.....	.....
Ether solubility ..... per cent	3.5	1.0	2.6	1.4
Alcohol-benzene solubility ..... per cent	4.8	2.8	2.6	3.4
Hydrolysis number	21.4	19.3	17.3	14.9
IVES COLOR READINGS				
Heartwood—				
Red ..... parts	73.0	62.4	66.5	.....
Green ..... parts	50.0	41.3	46.0	.....
Blue ..... parts	36.0	29.7	35.0	.....
Sapwood—				
Red ..... parts	69.0	66.6	66.4	65.7
Blue ..... parts	46.0	45.2	45.5	44.3
Green ..... parts	32.0	32.5	35.1	32.7

[1] The volume of the container used was 1.22 cubic feet.

Discussion of Results

The average yield for all of the pulps combined, was slightly better than 41 per cent. The percentages of screenings were very low (0.1 per cent). So far as yield of pulp is concerned, neither the rate of growth nor the density of the wood had much effect when calculations were made on a weight basis. Density of wood, of course, plays an important part when yields are considered on a volume or cord basis. On the volume basis pulp yield *(5) (6)* is proportionately increased as density is increased.

The strength values of the longleaf pine sulphate pulps were similar in magnitude to those previously published for easy-bleaching loblolly *(2)* pine sulphate pulps prepared under similar cooking conditions. Although, for a given lot of wood variations in strength properties occurred from one digestion to another, no general trends could be distinguished in relation to rate of growth or density of wood with the possible exception that slightly higher values of bursting strength were obtained from the pulps made from wood of slow and of medium-growth top logs. This result, however, can hardly be attributed to density since the two lots of woods were the extremes in these characteristics.

The color of the unbleached longleaf sulphate pulps and those bleached with equal quantities of bleaching agent were similar to the results obtained for loblolly pine. *(3)* Rate of growth and density of wood appeared to have little influence on the bleach requirement of the pulps. In other

TABLE II.—PULPING, STRENGTH, AND BLEACHING DATA ON LONGLEAF PINE SULPHATE PULPS

Digestion number	Date 1929	Wood characteristics: Dryness, Per cent	Density, Lbs. per cubic foot	Cooking and yield data: Black liquor added to cooking liquor, Per cent of total volume	Chemical consumed: Ratio of combined to total alkali, Per cent	Per 100 pounds of oven-dry wood charged, Lbs.	Density of black liquor at 15 deg. C., Deg. Be.	Pulp yield: Oven-dry scr'n'd pulp, Per cent	Oven-dry screenings, Per cent	Total, Per cent	Strength data on pebble-milled pulps (Tests made at 72 deg. F. and 65 per cent relative humidity): Time in pebble mill, Min.	Ream weight (24x36—500 sheets) Lbs.	Average burst'g st'gth, Pts./lb./ream	Average Elmendorf tear'g st'gth, Gms./lb./ream	Average folding endurance, Double folds	Average breaking length, Meters	Average stretch, Per cent	Tests of bleach requirement: Bleaching powder added (35 per cent available chlorine) based on oven-dry weight of pulp treated, Per cent	Ives color reading: Red, Parts	Green, Parts	Blue, Parts
SERIES 400—RAPID GROWTH, BUTT LOGS																					
2272	7/8	79.8	34.2	0	51.0	17.5	9.5	41.8	0.2	42.0	40	66.4	0.48	3.3	29	2110	9.0	Unbleached	50	38	33
											80	53.1	.81	3.8	396	3168	12.5	17.5	..	..	..
											120	54.8	.95	3.6	975	4107	15.3	20.0	..	..	..
											160	61.3	.90	3.3	662	3705	16.0	22.5	..	..	..
																		25.0	..	..	..
2273	7/10	78.4	34.2	0	51.3	17.6	9.5	40.0	.2	40.2	40	56.2	.52	3.1	27	2757	7.7	Unbleached	49	38	32
											80	55.8	.86	3.3	486	3295	10.9	17.5	82	77	70
											120	52.4	.91	3.2	637	4041	12.2	20.0	86	79	72
											160	57.9	.85	2.9	548	3587	13.6	22.5	86	81	76
																		25.0	87	85	78
2279	8/22	82.0	34.2	38.0	60.2	19.9	12.0	42.3	.1	42.4	40	52.8	.44	3.1	75	2593	10.3	Unbleached	48	35	30
											80	52.8	.84	3.6	346	3320	12.8	17.5	83	74	63
											120	56.2	.94	3.5	889	3693	14.8	20.0	83	77	67
											160	55.8	.83	3.1	637	3950	13.5	22.5	84	79	75
																		25.0	87	84	76
SERIES 200—MEDIUM GROWTH BUTT LOGS																					
2274	7/12	79.2	34.8	0	50.4	17.2	10.2	40.6	.3	40.9	40	53.1	0.57	3.1	24	2690	7.5	Unbleached	..	..	..
											80	53.4	.90	3.8	305	3900	11.5	17.5	..	..	..
											120	51.7	.98	3.5	354	5465	17.3	20.0	..	..	..
											160	54.8	.95	3.2	638	4280	12.8	22.5	..	..	..
																		25.0	89	83	77
2277	7/31	83.3	34.8	0	47.2	15.7	...	41.7	0	41.7	40	50.4	.49	3.0	21	2274	7.1	Unbleached	52	39	32
											80	52.8	.87	3.6	302	3291	10.8	17.5	86	79	72
											120	54.5	1.00	3.5	731	3875	14.6	20.0	90	83	77
											160	57.2	.85	2.8	630	3608	15.0	22.5	90	85	78
																		25.0	90	88	82
[1]2281	10/8	87.0	34.8	38.0	60.0	20.5	11.8	...	...	...	40	56.5	.45	3.3	30	2837	8.3	Unbleached	47	36	30
											80	56.5	.80	3.9	288	3655	12.3	17.5	82	72	63
											120	56.8	.95	3.5	942	3810	16.6	20.0	85	78	68
											160	59.6	.94	3.3	1099	4010	17.0	22.5	87	80	75
																		25.0	91	85	77
2282	10/10	87.1	34.8	38.0	69.5	23.8	12.4	42.8	.1	42.9	40	57.2	.59	3.5	66	2963	8.3	Unbleached	..	..	..
											80	52.8	.97	4.1	368	3635	11.5	17.5	84	75	66
											120	55.8	.97	3.5	660	3672	13.0	20.0	85	81	73
											160	59.9	.90	3.1	698	4410	11.3	22.5	90	83	75
																		25.0	88	84	78
SERIES 200—MEDIUM GROWTH, TOP LOGS																					
2275	7/15	76.3	30.6	0	47.2	16.2	...	39.6	0.2	39.8	40	53.4	0.59	2.6	47	3181	9.2	Unbleached	52	40	34
											80	53.8	.86	2.6	241	3825	12.0	17.5	90	83	76
											120	54.5	.97	2.5	600	3920	14.1	20.0	90	84	77
											160	58.5	.88	2.0	703	3950	17.5	22.5	90	84	79
																		25.0	89	85	80
2278	8/20	82.5	30.6	0	45.2	15.5	10.4	38.7	0	38.7	40	46.3	.55	3.6	39	2318	7.3	Unbleached	49	38	31
											80	48.3	.95	3.7	942	3763	10.8	17.5	84	76	65
											120	49.4	1.00	3.2	743	3910	18.3	20.0	85	79	68
											160	51.4	.89	2.5	716	5250	6.3	22.5	85	80	73
																		25.0	91	81	75
2285	10/31	74.6	30.6	38.0	61.7	21.1	12.6	41.6	.1	41.7	40	53.8	.61	2.9	80	2841	7.9	Unbleached	47	35	29
											80	50.7	.82	3.1	391	3676	10.3	17.5	82	74	62
											120	53.8	.98	3.1	476	4115	11.0	20.0	87	77	71
											160	54.8	.92	2.8	433	4100	12.1	22.5	88	82	72
																		25.0	87	82	76
2286	11/7	76.4	30.6	38.0	61.5	21.1	12.8	42.1	.1	42.2	40	49.4	.65	3.6	80	3395	9.0	Unbleached	46	35	29
											80	48.7	1.00	3.2	558	3818	11.5	17.5	82	71	63
											120	51.1	1.01	2.5	358	4565	14.0	20.0	87	78	70
											160	53.1	.92	2.4	457	4263	14.0	22.5	87	81	74
																		25.0	88	85	79
SERIES 100—SLOW GROWTH, BUTT LOGS																					
2276	7/25	83.6	36.8	0	49.0	16.8	10.6	42.2	0	42.2	40	54.5	0.54	3.6	33	2315	7.3	Unbleached	51	39	32
											80	53.1	.93	3.7	263	3355	12.5	17.5	88	80	70
											120	52.1	.92	3.5	400	3560	13.0	20.0	87	84	76
											160	56.2	.90	3.1	594	3625	14.3	22.5	91	85	78
																		25.0	89	84	78
2287	11/19	80.5	36.8	38.0	61.6	20.8	13.2	42.7	.1	42.8	40	45.3	.66	3.6	79	2909	7.9	Unbleached	46	34	30
											80	45.3	1.12	3.8	478	3690	12.6	17.5	87	78	69
											120	54.1	1.08	3.2	839	3884	12.9	20.0	86	79	71
											160	52.4	1.02	2.6	612	4092	14.6	22.5	86	82	76
																		25.0	91	93	77

[1] Chips cooked for 2½ hours at maximum temperature; all others were cooked for 2¼ hours at maximum temperature.

words, the variation in color of the pulps, bleached with identical percentages of bleaching agent, was no greater when comparing pulps made from wood of different rates of growth than those prepared from any single lot of wood. The bleach requirement, however, was slightly affected as a result of the reuse of black liquor in cooking.

Effect of Reusing Spent Liquors in Cooking

Through the reuse of spent liquors *(10)* in cooking, that is, the replacing of approximately 40 per cent of the total liquor volume with black liquor collected from previous digestions, the following results were observed: (1) The density of the resulting spent liquor was increased; (2) slightly higher pulp yields were obtained for a given set of pulping conditions; (3) the strength characteristics of the pulps were not noticeably affected; (4) the bleach requirement of the pulps was slightly increased. The increase in bleach requirement through the reuse of black liquor, however, was not large enough to preclude the addition of this waste material to cooking liquor even for the production of easy-bleaching sulphate pulps.

Paper Machine Experiments

A variety of papers were made from the bleached longleaf pine pulps in order to demonstrate the possibilities of diversifying paper manufacture from the southern yellow pines. In addition to the pure longleaf pine furnish, pulps produced from other species and processes were used. For the most part, the pine pulps were bleached by the Forest Products Laboratory two-stage method involving a chlorination, a wash with water, and a final hypochlorite treatment, but, for comparison, some of the pulps were bleached with hypochlorite only.

The chlorinations were conducted in a revolving drum and the bleaching treatments in an experimental beater. *(3)* The bleached and processed pulps were made into sheets on a semi-commercial paper machine. The bleaching, processing, and paper machine data are given in Table III.

The strength of the machine-made papers obtained from pulps beaten in the beater was considerably lower than that of hand sheets prepared from the same pulps when

TABLE III.—BLEACHING, BEATING AND PAPER MACHINE DATA FOR LONGLEAF PINE SULPHATE PULPS

		Bleaching treatment (All percentages calculated as bleaching powder of 35 per cent available chlorine)				Beater treatment for longleaf pine pulps					Total furnish to paper machine				
		First stage		Second stage					Bursting strength developed in beater			Other pulps added either as fresh pulp or as broke				
Machine run No.	Digestion No.	Chlorine added, Per cent	Bleaching powder solution added, Per cent	Bleaching powder solution added, Per cent	Total bleaching agent added, Per cent	Wgt. of pine pulp ch'g'd, Lbs.	Total time of beating, Min.	Approximate consistence, Per cent	Maximum Pts./lb./ream	Final Pts./lb./ream	Longleaf pine pulp, Per cent	Kind and per cent	Total added, Per cent	Rosin size, Per cent	Clay added, Per cent	Dye added to pulp in beater
167	2272	11.5	...	7.0	18.5	20	80	3.0	...	...	100	.....	..	1.5	0	No
168	2272	11.5	...	7.0	18.5	20	30	3.0	...	...	100	.....	..	1.5	0	Yes
169	(2272 (2273	10.2	...	7.0	17.2	40	57	3.0	0.97	0.97	83	Soda 17	17	1.5	10	Yes
170	2274	10.6	...	7.0	17.6	40	81	3.0	1.01	1.01	80	Soda 10, Broke 10.....	20	1.5	10	Yes
173	2275	10.6	...	8.3	18.9	30	100	3.0	.95	.85	85	Cornstalk pulp 15.....	15	1.5	0	Yes
174	2276	10.9	...	6.0	16.9	30	320	3.8	...	...	60	Cornstalk pulp 40.....	40	0	0	Yes
176	2277	Bleached		...	...	20	26	2.8	...	...	100	.....	..	0	0	Yes
177	2278	11.7	...	11.0	22.7	20	85	2.6	1.02	.85	85	Gum soda 15.....	15	1.5	10	Yes
178	(2278 (2279	11.7	...	9.0	20.7	10 10	82	3.2	.92	.62	85	Gum soda 10, Broke 5.....	15	1.5	10	Yes
180	2279	10.9	...	9.0	19.9	20	82	3.1	.96	.74	85	Chestnut soda 15.....	15	1.5	10	No
188	2281	11.6	...	7.0	18.6	20	102	3.0	1.08	.81	80	Black gum sulphite 20.....	20	1.5	0	Yes
189	(2281 (2282	10.8	...	9.0	19.8	2 18	95	3.0	1.21	.77	60	Black gum sulphite 40.....	40	1.5	15	Yes
190	2281	Commercial bl. pulp			2.0[2]	40	95	3.0	.88	.76	60[2]	Soda 25, Gum sulphite 15..	40	1.5	15	Yes
191	2281	Commercial bl. pulp			2.0	40	100	3.0	.89	.89	60	Soda 34, Gum sulphite 6..	40	1.5	15	Yes
194	2282	0	15.0	7.5	22.5	32	85	3.6	.71	.68	74	Black gum sulphate 26....	26	2.0	10	Yes
197	2285	9.9	...	9.0	18.9	19	75	3.3	.90	.66	70	Soda 22, Rag 8.....	30	2.0	10	Yes
198	2286	0	10.0	9.0	19.0	20	65	2.8	.86	.79	68	Soda 9, Gum sulphite 23...	32	2.0	10	Yes
204	(2286 (2287	0	15.0	7.5	22.5	22	75	3.3	.83	.77	80	Aspen soda 20.....	20	2.0	10	Yes
205	2287	11.0	...	8.5	19.5	20	75	3.0	.90	.84	80	Soda 20	20	2.0	10	Yes
222	2277	0	15.0	2.0	17.0	..	100	3.0	.68	.64	60	Black gum sulphate 40....	40	2.0	10	No

[1] Quick control method 98 employed for making the test. (See footnote 8.)
[2] Including 37.5 per cent of commercial bleached southern pine pulp.

TABLE III.—BLEACHING, BEATING AND PAPER MACHINE DATA FOR LONGLEAF PINE SULPHATE PULPS—Continued

				Stretch of machine-made papers						Color and opacity of paper (Ives reading)					
										Color			Opacity		
													Sample tested		
Machine run No.	Digestion No.	Jordan treatment	Type of paper	Ream weight (24x36—500 sheets) Lbs.	Thickness, 0.001 inch	Average bursting strength, Pts./lb./ream	Average Elmendorf tearing strength, Pts./lb./ream	Average folding endurance, Double folds	Average breaking length, Meters	Average stretch, Per cent	Red, Parts	Green, Parts	Blue, Parts	Reading, Per cent	Caliper, 0.001 inch	Corrected to 0.004 in. thickness, Per cent
167	2272	Medium	Wrapping	44.0	3.3	0.51	1.2	134	4365	2.5	79	74	66	64	3.3	70
168	2272	Medium	Bond	41.0	3.1	.51	.9	39	4225	2.6	73	72	67	69	3.1	77
169	(2272 (2273	Medium	Writing	48.0	3.3	.48	1.1	39	3800	3.1	78	73	79	82	3.1	88
170	2274	Medium	Book	48.0	3.5	.50	1.4	74	4290	3.6	78	77	76	87	3.5	90
173	2275	Medium	Bond	56.0	4.2	.60	1.3	203	5155	3.8	79	69	70	81	4.4	78
174	2276	Hard	Glassine	30.0	2.0	.68	.7	118	5665	4.0	60	50	51	38	2.0	52
176	2277	Medium	.....	93.0	7.8	.63	1.59	274	5010	4.6	..	..	..	..	..	..
177	2278	Medium	Writing	43.0	3.2	.58	1.2	68	4325	4.7	73	67	73	85	3.1	90
178	(2278 (2279	Hard	Writing	42.0	3.4	.50	1.3	56	4070	3.7	..	..	..	..	..	..
180	2279	Hard	Writing	49.0	4.0	.59	1.5	104	4400	4.2	..	..	..	..	..	..
188	2281	Hard	Bond	45.0	4.0	.65	1.1	224	5240	2.8	82	73	65	..	..	..
189	(2281 (2282	Hard	Writing	48.0	3.3	.47	.8	24	4097	3.0	77	77	73	78	3.3	83
190	2281	Light	Book	57.0	5.2	.38	1.1	16	3387	3.6	81	82	81	90	5.3	83
191	2281	Light	Book	71.0	6.3	.34	1.1	13	3190	3.7	82	84	82	95	6.2	87
194	2282	Medium	Writing	49.8	3.6	.42	.9	18	4288	3.7	80	77	74	83	3.7	85
197	2285	Medium	Writing	51.0	3.8	.45	1.0	36	3841	3.2	82	81	79	84	3.5	87
198	2286	Medium	Writing	50.0	3.6	.48	1.1	31	3645	3.4	79	78	79	86	3.8	87
204	(2286 (2287	Light	Writing	40.0	4.1	.41	.6	17	3327	2.6	79	78	73	79	3.1	86
205	2287	Medium	Writing	50.0	4.5	.46	.7	59	3897	3.5	86	84	82	86	3.5	89
222	2277	Medium	Book	47.0	3.1	.40	.8	5	3610	2.6	87	84	79	86	3.5	89

treated in a pebble mill. This discrepancy is frequently encountered in converting pulp into paper and may be due to any one of a large number of machine factors. Among these may be mentioned the possibility of shrinkage during machine drying or to the amount of treatment in the jordan necessary for the preparation of a well-formed sheet.

The color of the machine-made papers ranged from a high white through various intermediate shades to a yellowish white depending upon the conditions of bleaching, the components of the furnish, and the variables of paper machine operation. In most instances the color of the finished papers, while satisfactory for commercial purposes, was not so bright as the pulps from which they were made. This decrease in whiteness or "going back" in color may be explained by a reversal in the bleaching reaction. Often, unless the products formed during bleaching are thoroughly removed from the sphere of the reaction at the proper time, the color of a bleached pulp tends to darken slightly. This tendency seems more marked with sulphate than with sulphite pulps. Storage of the papers over a three-year period caused some additional darkening in color.

Summary

The investigation shows that the modified sulphate pulping and the two-stage chlorination-hypochlorite bleaching methods developed at the Forest Products Laboratory can be applied to longleaf pine with equally good results as were found for loblolly pine. So far as pulp yield (weight basis) and bleach requirement are concerned, the rate of growth of the wood had but little influence in the production of easy-bleaching sulphate pulps. From the standpoint of pulp strength, more particularly the bursting strength, the results appear to be slightly in favor of the wood of medium and slow rates of growth.

Logs taken from the upper 18 feet of the longleaf pine bole gave equally good results as the butt logs of the same trees.

The reuse of black or spent sulphate liquor slightly increased the bleach requirement of the pulps but not to so great a degree as to preclude employing it in admixture with fresh white liquor in the production of easy-bleaching sulphate pulps from southern yellow pine.

Literature Cited

(1) Paper Trade J. 90, No. 3: 49 (January 16, 1930).
(2) Ind. Eng. Chem 22, 830 (1930).
(3) Paper Trade J. 92, No. 1: 47 (January 1, 1931).
(4) Paper Trade J. 92, No. 2: 45 (January 8, 1931).
(5) U. S. Dept. Agr. Bul. 168 (1930); Paper Ind. 13, No. 2: 1311 (February, 1932).
(6) Southern Lumberman 141, No. 1993: 163 (December 15, 1930).
(7) Manual of Standard Testing Methods for Pulpwood, Pulp, Stuff and Paper, Memo. Report, Forest Products Laboratory.
(8) Paper Trade J. 76, No. 24: 49 (April 13, 1923); U. S. Dept. Agr. Bul. 1485 (for description and drawings of the digester).
(9) Paper Trade J. 84, No. 17: 48 (April 28, 1927).
(10) Paper Trade J. 76, No. 24: 49 (June 14, 1923).

Siamese To Make Own Paper

WASHINGTON, D. C., February 6, 1933—A group of local merchants in Bangkok, Siam, are contemplating the erection in the near future of a paper mill for the manufacture of paper on a commercial basis, according to a report to the Commerce Department from Assistant Trade Commissioner J. D. Walstrom, Bangkok.

Registration has been applied for at the Ministry of Agriculture and Commerce. Only domestic products will be used in the manufacture of the paper, the paper producers stated.

The only paper mill now in Siam is the small experimental plant operated by the Government at Samsen. Its output is necessarily small, but it has been in a position to supply some of the government departments with their requirements.

Chromium Corporation Joins TAPPI

The Chromium Corporation of America is the most recent company to become a member of the Technical Association of the Pulp and Paper Industry.

The Chromium Corporation of America operates four industrial chromium plating plants at Waterbury, Conn.; Cleveland, Ohio; Chicago, Ill.; and Milwaukee, Wis. Executive offices of the corporation are at 120 Broadway, New York, N. Y. Its activities are principally in the field of industrial chromium plating, although its plants at Chicago and Cleveland are chiefly interested in so-called decorative chromium plating. All chromium plating done by this company is identified by its trade mark "CRODON."

Due to the wear resisting and corrosion resisting ability of chromium plate it is of particular importance in the paper industry where such protection is especially desirable. Chromium is harder than any other commercially used metal, and it also has an extremely low co-efficient of friction which makes it valuable for use where extreme smoothness is desired, as on suction box covers. This particular application has been found to substantially increase the length of life of Fourdrinier wire and felt and at the same time protects the metal cover itself against wear and clogging. Screen plates also (both flat and curved types) have proved to be exceptionally good applications for chromium plate. Trouble frequently experienced by means of the slots becoming clogged is practically eliminated and the full screening capacity is retained for long periods of time. In addition, the slot dimensions are preserved at their original accuracy and the plates are protected against damage from careless handling and other sources.

Evaporator tubes are plated to resist corrosion, and exceptional performance records in comparison with both plain steel and stainless steel tubes have been noted. Six times ordinary life is not unusual for chromium plated steel embossing rolls, protection being given against corrosion and wear as well as the gradual destruction of the engraved design. Printing rolls obtain similar advantages. Calendar rolls benefit from extremely hard and smooth surfaces afforded by chromium plating. These same qualities permit entirely successful applications on press rolls which run exceptionally clean without adherence of pulp. The chromium plating of large drying drums has given favorable results and numerous other paper mill equipment has been so processed.

The Chromium Corporation of America is conceded to be the oldest and largest industrial chromium plating organization in this country. Its experience not only in the paper industry but in many other industries as well has been gained over a period of years, and its extensive research activity together with close cooperation with manufacturers and users of equipment has been of extreme importance in developing chromium plating processes which are now unquestionably of definite economy to operators of equipment. The plants at Waterbury and Milwaukee have specialized in paper industry applications and these plants are equipped to handle large and heavy parts.

While the cost of the correct type of chromium plate is not low, it is usually found upon investigation that the expense of plating a part is many times exceeded by the increased efficiency in operation and extended length of life. It frequently happens that the cost of plating a part is more than the cost of the original part itself (as in the case of screen plates) but this additional investment quickly pays for itself and usually returns a substantial dividend.

The representatives in the Technical Association are E. R. Granger of Waterbury, Conn. and A. F. Francis of Milwaukee, Wis.

Digester Lining Developments*

By A. F. Richter[1]

Abstract

A review of the developments and trends in the design and construction of sulphite digester linings.

Durable acid proof brick linings, which originally contributed so prominently to the success of the sulphite process, have been further perfected to a stage where exceptionally long service is obtained. Outstanding accomplishments during the past few years, have resulted from a better knowledge of the technical details involved in the production of ceramic ware which is highly resistant to chemical spalling.

Spalling

This type of spalling may be defined, by comparison to either thermal or mechanical spalling, as the splitting of a brick caused by the precipitation of mineral salts in the pores of the brick, with the subsequent exertion of forces through the expansion or growth of crystals formed. The best type of brick possesses an exceptionally high degree of elasticity, thereby very materially increasing resistance to these forces.

Production methods have met the pace set by the requirements of the process. Certain manufacturers of ceramic ware, having benefitted through their becoming better informed respecting the characteristics of the process, are now furnishing digester lining brick for which a conservative forecast of more than ten years life may be assured. Naturally, a change in the moulding and burning methods employed has been necessary, while careful grading of materials also became essential, and finally, the adoption of only virgin clay for brick production, has become standard practice. More than 80 per cent of the lining installations completed during the past six years, are giving every evidence that a life of eleven or more years may be reasonably expected.

Effect of Hot Acid Accumulators

Considerable credit can be given the acceptance of hot acid accumulators as having benefitted linings, in that the thermal shock applied to the wall of brick is greatly reduced through the admission of acid cooking liquor at a temperature of nominally 180 deg. F., as against the introduction of liquor having a temperature below 80 deg. F. Close observation on this one point emphasizes the fact that introducing hot acid into a digester will also materially assist in reducing strains on the steel shell itself. Credit also is due chromium steel digester fittings, which outlast other metals and reduce the necessity of frequently cutting into relatively new linings for renewal of fittings.

Steel Construction

It is currently understood that a rigid digester shell will aid in prolonging the life of a lining, by comparison with a weaker shell structure. Quite recently the boiler insurance and inspection companies have openly accepted this viewpoint, and have raised the standard of the code covering digester shell construction. Their findings are, in effect, that many short life linings may trace their reduced life to the fact that the shell is creeping or springing at the riveted seams.

Seamless welded digesters for the sulphite process have arrived. Two large shells are in course of production for a midwestern plant, at this time. The welding of the plates is being performed under the supervision of one of the indemnity companies, and in accordance with the A. S. M. E. Code, Class 1, welded construction for unfired pressure vessels. X-ray photographs are being taken of the seams to insure against defects in workmanship. We predict that this type of construction will receive the approval of the trade.

Departures have been attempted, such as applying protective coatings on the inside of the steel vessel before installing linings, but the experience gained thus far would not seem to promote the general acceptance of this thought. Given a rigid shell, and the customary care in selecting and installing materials composing the lining, no leaks will occur, providing the space between the edges of the plates underneath the covering straps, has been filled to prevent storage of cooking solution in this space during the first few weeks a new lining is put into operation. To assure that this work is properly performed, and as a means of providing a tell tale to betray any bleeding through the lining, outside covering straps are now being drilled at regularly spaced intervals. This practice has the approval of certain prominent insurance companies.

Carbon Linings

Lining installations have been made of carbon bricks. A commercial size installation has been in operation for two years in a ten-foot diameter kraft digester, with perfect results. Installations of carbon linings in sulphite digesters, having much larger diameters than the kraft digester mentioned, have furnished some valuable experience. Carbon is handicapped through its high thermal conductivity and low linear expansion, although this material is absolutely inert in the presence of the cooking solutions employed by any of the chemical conversion processes. Owing to the inherent characteristics possessed by carbon, heat transmission to the shell causes a raised temperature on the digester shell itself, which in turn results in the inner face course of carbon being subjected to tension when in operation, finally completely shearing the bond between the carbon face course and the cement backing. Corrective measures then become necessary, and installations now in operation are being continued in use through the applications of a composition pumped between the carbon face brick and the cement backing, thereby placing the inner carbon lining under compression.

In normal times, the loss of production involved in such procedure would militate heavily against the acceptance of this material, but subsequent installations may be more successfully made, providing the backing lining is composed of material capable of resisting heat flow. However, such material will be of low mechanical strength.

Summarizing the foregoing, the effect of better knowledge and cooperation between suppliers and operators of lined equipment, including insurance carriers, has made for greatly improved results, lower operating costs and freedom from unnecessary grief.

* To be presented at the annual meeting of the Technical Association of the Pulp and Paper Industry, New York, N. Y., February 13-16, 1933.
Contribution of the TAPPI Materials of Construction Committee.

[1] Member TAPPI, president, Stebbins Engineering and Manufacturing Company, Watertown, N. Y.

United States Patents on Papermaking

Fourth Quarter, 1932

Compiled by Clarence J. West, Chairman, Committee on Abstracts and Bibliography, TAPPI.

NOTE.—Copies of any of the following patents may be obtained from the Patent Office, Washington, D. C. for ten cents ($0.10) each.

October 4, 1932

1,880,286. Method of treating paper articles with viscose. Milton O. Schur, assignor to Brown Company, Berlin, N. H. Filed Nov. 7, 1930. 8 claims. (Cl. 92-40).

1,880,288. Wrapping and forming boxes. John S. Stokes, assignor to Stokes and Smith Company, Philadelphia, Pa. Filed Oct. 2, 1929. 25 claims. (Cl. 93-43).

1,880,332. Paper cutting machine. Frederick W. Seybold, assignor to The Harris-Seybold-Potter Company, Dayton, Ohio. Filed May 20, 1929. 29 claims. (Cl. 164-59).

1,880,339. Manufacture of paper board. Lawrence W. Case and Harold E. Cude, assignors to Case Brothers, Inc., Manchester, Conn., and Case and Marshall, Inc., East Hartford, Conn. Filed Apr. 24, 1931. 7 claims. (Cl. 154-37).

1,880,342. Match making machine. Perry T. Demmead, Akron, Ohio. Filed May 19, 1930. 11 claims. (Cl. 93-2).

1,880,455. Doctor for calendering machines. Herbert Warren Mason, Wilmington, Del. Filed Sept. 29, 1930. 15 claims. (Cl. 92-74).

1,880,458. Mechanism for and method of manufacturing pulp articles. Albert W. Morris, assignor to George E. Coblens, New York, N. Y. Filed Feb. 5, 1929. 22 claims. (Cl. 92-56). Air is forced through pulp while it is heated.

1,880,460. Machine for forming cartons. Warren A. Morris, assignor to The Richardson Company, Lockland, Ohio. Filed Sept. 13, 1929. 14 claims. (Cl. 93-2).

1,880,518. Apparatus for making laminated articles. William C. Stevens and Horace D. Stevens, assignors to The Firestone Tire and Rubber Company, Akron, Ohio. Filed Nov. 6, 1930. 14 claims. (Cl. 154-1).

1,880,587. Paper manufacture. John Traquair and Francis G. Rawling, assignors to The Mead Research Engineering Company, Dayton, Ohio. Filed Dec. 29, 1928. 9 claims. Issued Oct. 4, 1932. Cl. The material is first treated with a non-acid chemical, the pulp extracted with alkaline liquor and then treated with a chlorinating agent.

1,880,598. Paper cutting machine. Ralph S. Tyler and Herbert McGeorge, assignors to The Chandler and Price Company, Cleveland, Ohio. Filed Sept. 27, 1929. 3 claims. (Cl. 164-51).

1,880,634. Apparatus for the extraction of resinous substances from wood. Will F. Wolf, Centralia, Wash. Filed Aug. 6, 1929. 3 claims. (Cl. 202-168).

1,880,685. Paper machine. Earl E. Berry, assignor to Beloit Iron Works, Beloit, Wis. Filed Oct. 20, 1930. 28 claims. (Cl. 92-44). Breast roll.

1,880,686. Paper making machine and method of making web material. Earl E. Berry, assignor to Beloit Iron Works, Beloit, Wis. Filed Nov. 17, 1930. 39 claims. (Cl. 92-39). Suction device.

1,880,687. Press felt suction roll. Earl E. Berry, assignor to Beloit Iron Works, Beloit, Wis. Filed Dec. 29, 1930. 12 claims. (Cl. 92-47).

1,880,688. Paper making machine. Earl E. Berry, assignor to Beloit Iron Works, Beloit, Wis. Filed Dec. 29, 1930. 10 claims. (Cl. 92-44). Web forming device.

1,880,689. Press roll gearing. Earl E. Berry, assignor to Beloit Iron Works, Beloit, Wis. Filed Jan. 19, 1931. 10 claims. (Cl. 92-49).

1,880,690. Press roll gearing differential. Earl E. Berry, assignor to Beloit Iron Works, Beloit, Wis. Filed Jan. 26, 1931. 12 claims. (Cl. 92-49).

1,880,691. Paper making machine and method of making paper. Earl E. Berry, assignor to Beloit Iron Works, Beloit, Wis. Filed Oct. 23, 1931. 11 claims. (Cl. 92-38). Pick-up felt.

1,880,692. Method of and apparatus for making paper. Earl E. Berry, assignor to Beloit Iron Works, Beloit, Wis. Filed June 27, 1931. 17 claims. (Cl. 92-39). Suction device.

1,880,772. Apparatus for producing methane. Arthur M. Buswell, Urbana, and Clair S. Boruff, Monmouth, Ill. Filed Sept. 11, 1930. 6 claims. (Cl. 92-5). Fermentation of cellulose.

1,880,773. Cellulose digestion. Arthur M. Buswell, and Clair S. Boruff, assignors to the Board of Trustees of the University of Illinois, Urbana, Ill. Filed Aug. 15, 1929. 12 claims. (Cl. 92-5). Method of producing methane.

1,880,785. Edge protection for fiber boards. Jerome T. Card, assignor to Masonite Corporation, Chicago, Ill. Filed Sept. 2, 1930. 7 claims. (Cl. 154-45.9). Metal foil is cemented to the edges by an asphalt compound.

1,880,827. Manufacture of effect papers and apparatus therefor. Berthold Richter, and Rudolf Richter, assignors to I. G. Farbenindustrie Aktiengesellschaft, Frankfort-on-the-Main, Germany. Filed Oct. 25, 1929. 20 claims. (Cl. 92-40).

1,880,839. Method of and apparatus for adding supplemental members to bag ends. Andrew Ellison Currier, assignor to Cornell Bag Corporation, New York, N. Y. Filed Aug. 28, 1930. 12 claims. (93-35).

1,880,898. Process of preparing straw pulp. Pierre Drewsen, assignor to The Hinde and Dauch Paper Company, Sandusky, Ohio. Filed Oct. 20, 1930. 3 claims. (Cl. 92-9). Alkaline cook.

1,880,899. Process of manufacturing straw paper. Pierre Drewsen, assignor to The Hinde and Dauch Paper Company, Sandusky, Ohio. Filed Oct. 13, 1930. 11 claims. (Cl. 92-6). Straw is treated with alkali and simultaneously beaten.

1,880,965 Fiber product preservation. Elbert C. Lathrop and Fergus A. Irvine, assignors to The Celotex Company, Chicago, Ill. Filed June 19, 1931. 14 claims. (Cl. 92-21). Arsenic compound is used.

1,880,971. Protective treatment of fiber products. Treadway B. Munroe and Elbert C. Lathrop, assignors to The Celotex Company, Chicago, Ill. Filed May 29, 1930. 7 claims. (Cl. 92-21). Chloro-naphthalene is used.

1,880,972. Treatment of fiber products. Treadway B. Munroe and Elbert C. Lathrop, assignors to The Celotex Company, Chicago, Ill. Filed Dec. 27, 1930. 30 claims. (Cl. 92-21). Iron, arsenic and rosin are used.

1,880,105. Suction box oscillating means. John Warren Vedder, Worcester, Mass. Filed Mar. 16, 1931. 8 claims. (Cl. 92-51).

1,881,133. Apparatus for closing the ends of cartons or like receptacles. Alfred German Rose, assignor of one-half to Rose Brothers (Gainsborough) Limited, Gainsborough, England. Filed Oct. 24, 1929. 7 claims. (Cl. 93-7).

1,881,404. Box board machine. Walter B. Hadley, assignor to Kellogg-Hadley Corporation, a Corporation of Delaware. Filed Mar. 16, 1931. 6 claims. (Cl. 92-38).

1,881,418. Process of making panel board. Albert C. Lathrop and Fergus A. Irvine, assignors to The Celotex Company, Chicago, Ill. Filed June 7, 1930. 15 claims. (Cl. 92-40). Use of wood, straw, bagasse and the like.

1,881,419. Fiber derivative. Treadway B. Munroe and Fergus A. Irvine, assignors to The Celotex Company, Chicago, Ill. Filed June 29, 1929. 14 claims. (Cl. 92-1). A mechanically disintegrated wood fiver.

October 11, 1932

1,881,435. Adhering fabrics. Albert C. Fischer, assignor to The Philip Carey Manufacturing Company, Lockland, Cincinnati, Ohio. Filed Sept. 6, 1921. 10 claims. (Cl. 87-17).

1,881,437. Expansion joint. Albert C. Fischer, assignor to The Philip Carey Manufacturing Company, Lockland, Cincinnati, Ohio. Filed Apr. 14, 1926. 4 claims. (Cl. 94-18).

1,881,438. Roofing material. Albert C. Fischer, assignor to The Philip Carey Manufacturing Company, Lockland, Cincinnati, Ohio. Filed May 9, 1927. 5 claims. (Cl. 108-7).

1,881,440. Constructional material. Albert C. Fischer, assignor to The Philip Carey Manufacturing Company, Lockland, Ohio. Filed Sept. 10, 1927. 5 claims. (Cl. 94-18). Fibers in plastic waterproofing binder.

1,881,465. Rossing machine. Hakon Adolph Ganes and William Kilde, Tacoma, Wash. Filed Feb. 10, 1930. 2 claims. (Cl. 144-208).

1,881,548. Apparatus for making pulp board. Harold C. Harvey, assignor to The Agasote Millboard Company, Trenton, N. J. Filed Aug. 26, 1931. 3 claims. (Cl. 92-61).

1,881,729. Aqueous dispersion and process of producing same. Harold L. Levin, assignor to The Flintkote Corporation, Boston, Mass. Filed Dec. 2, 1927. 2 claims. (Cl. 134-1). Bitumen-pitch type.

1,881,745. Process of bleaching, dyeing and printing vegetable and animal fiber material, fabrics or felt. Kurt Lindner, assignor to Chemische Fabrik Aktien-Gesellschaft, Berlin, N. H. Filed Jan. 14, 1926. 4 claims. (Cl. 8-2).

1,881,812. Apparatus for testing sheet material. William B. Meglitz, assignor to Brown Company, Berlin, N. H. Filed Aug. 11, 1930. 3 claims. (Cl. 265-12).

1,881,813. Apparatus for bending sheet material. William B. Meglitz, assignor to Brown Company, Berlin, N. H. Filed Aug. 11, 1930. 5 claims. (Cl. 73-51). Testing apparatus.

1,881,912. Method of and apparatus for making multiply paper. Howard Parker, assignor to Brown Company, Berlin, N. H. Filed Oct. 28, 1930. 9 claims. (Cl. 92-39).

1,881,914. Multiple cylinder paper machine. Howard Parker, assignor to Brown Company, Berlin, N. H. Filed Feb. 4, 1930. 14 claims. (Cl. 92-43).

1,881,916. Method of forming fibrous bell-mouth tube ends. Howard Parker, assistant to Brown Company, Berlin, N. H. Filed Feb. 28, 1931. 4 claims. (Cl. 18-56).

1,881,985. Method of and means for manufacture of paper. Romulus S. von Hazmburg, assignor to Scott Paper Company, Chester, Pa. Filed Apr. 6, 1931. 5 claims. (Cl. 92-44). Method of neutralizing electric charge on paper pulp.

1,882,012. Paper roll. John Edgar Hires, assignor to Scott Paper Company, Chester, Pa. Filed Dec. 6, 1929. 1 claim. (Cl. 206-59).

1,882,054. Sizing machine. Peter Aitchison, assignor to American Bank Note Company, New York, N. Y. Filed Mar. 24, 1928. 19 claims. (Cl. 91-54).

1,882,090. Pattern rolls for applying colored designs on paper board or the like webs. Hermann Palm, Neukochen, near Unterkochen, Germany. Filed Sept. 20, 1929. 5 claims. (Cl. 92-40).

1,882,133. Napking and method of making it. Philip A. Fischer, New York, N. Y. Filed May 27, 1930. 7 claims. (Cl. 93-1).

1,882,175. Process for the preparation of a cellular raw material suitable for artificial materials, particularly artificial silk. August Bosse, Herford, Germany. Filed Aug. 10, 1929. 1 claim. (Cl. 92-13). Peat is boiled with ammonia under pressure.

1,882,178. Paper pulp separator. George A. Cumberland, assignor of one-fourth to Marvin S. King, Wisconsin Rapids, Wis. Filed Jan. 6, 1931. 2 claims. (Cl. 92-36).

1,882,187. Paper-making machine. Jakob Langenbacher, Reutlinger, Germany. Filed Sept. 8, 1931. 4 claims. (Cl. 92-51). Device for surfacing suction boxes.

1,882,194. Process of paper manufacture. Herbert W. Server, Dayton, Ohio. Filed Jan. 22, 1930. 13 claims. (Cl. 92-3). Process of bleaching.

1,882,212. Fibrous material and method of making same. Judson A. DeCew, assignor to Process Engineers, Inc., New York, N. Y. Filed June 23, 1928. 3 claims. (Cl. 92-40). Method of waterproofing with resin containing wax.

1,882,391. Apparatus for digesting wood pulp. Einar Morterud, Torderod, near Moss, Norway. Filed Sept. 4, 1929. 2 claims. (Cl. 92-7). Combination with two or more percolating vessels of a collecting vessel for digesting liquor and method for reheating liquor.

October 18, 1932

1,882,657. Process for the recovery of cocos fibers. Egon Elöd, Karlsruhe, Germany. Filed Mar. 25, 1929. 7 claims. (Cl. 92-14). A weak alkaline solution above 100° C. for less than one hour is used.

1,882,662. Centrifugal paperstock screen. Anton J. Haug, Nashua, N. H. Filed June 10, 1929. 10 claims. (Cl. 92-34).

1,882,680. Sizing fibrous materials. Bruno Wieger, assignor to Becker and Co., Limited, London, England. Filed Aug. 24, 1929. 7 claims. (Cl. 134-21). Rosin is heated near its melting point and agitated with an aqueous alkaline solution of casein.

1,882,683. Method of die forming articles from sulphurized paper board. Allen Abrams, assignor to Marathon Paper Mills Company, Rothschild, Wis. Filed June 3, 1929. 5 claims. (Cl. 18-56).

1,882,713. Mulching. Edward H. Angier, Framingham, Mass. Filed Oct. 4, 1928. 5 claims. (Cl. 47-9). A web of expansible weather-resistant crepe paper.

1,882,714. Coloring sheet material. Edward H. Angier, Framingham, and Ernest R. Dearborn, Ashland, Mass.; said Dearborn assignor to said Angier. Filed Apr. 3, 1929. 8 claims. (Cl. 41-26). Coloring of crepe paper.

1,882,715. Waterproof sheet material and its production. Edward H. Angier, Framingham, Mass. Filed Nov. 29, 1930. 2 claims. (Cl. 154-40).

1,882,937. Method of and apparatus for form-

ing articles of pulp. Bertwell C. Root, assignor to Brown Company, Berlin, N. H. Filed Feb. 5, 1931. 4 claims. (Cl. 92-56).

1,882,962. Apparatus for measuring the thickness of paper. Frank Sawford, assignor of one-half to Frank Sawford, Jr., Vancouver, British Columbia, Canada. Filed Nov. 19, 1928. 2 claims. (Cl. 88-14).

1,882,991. Method of and apparatus for delivering pulp stock at constant tonnage rates. Milton O. Schur, assignor to Brown Company, Berlin, N. H. Filed Nov. 14, 1930. 24 claims. (Cl. 92-46).

1,883,022. Paper making process. James R. Simpson, assignor to Beloit Iron Works, Beloit, Wis. Filed June 18, 1930. 2 claims. (Cl. 92-45). Method of forming a paper web.

1,883,058. Machine for making pulp articles. Fred W. Staples, Waterville, Me. Filed Jan. 23, 1930. 14 claims. (Cl. 92-56).

1,883,144. Art of making paper and felted sheet materials. Melvin R. Ware, assignor to Johns-Manville Corporation, New York, N. Y. Filed Oct. 14, 1929. 12 claims. (Cl. 92-38).

1,883,167. Doctor for paper-making machinery. Frederick William Vickery, assignor to Vickery Incorporated, a Corporation of Massachusetts. Filed May 3, 1930. 8 claims. (Cl. 92-74).

1,883,183. Marking roll composition. Herman G. Weber, Sheboygan, Wis. Filed July 28, 1930. 11 claims. (Cl. 92-48).

1,883,184. Marking roll with hard rubber surface. Herman G. Weber, Sheboygan, Wis. Filed July 28, 1930. 9 claims. (Cl. 92-48).

1,883,185. Marking roll. Herman G. Weber, Sheboygan, Wis. Filed July 28, 1930. 19 claims. (Cl. 92-48).

1,883,187. Marking roll with metal plates and cushion. Herman G. Weber, Philadelphia, Pa. Filed July 28, 1930. 6 claims. (Cl. 92-48).

1,883,193. Bleaching of paper pulp. Sidney D. Wells, assignor to Nekoosa-Edwards Paper Company, Port Edwards, Wis. Filed Jan. 13, 1930. 3 claims. (Cl. 8-2). Hypochlorous acid is used, followed by an alkaline hypochlorite bleaching agent.

1,883,209. Adhesive. William R. Willauer, assignor to Marathon Paper Mills Company, Chicago, Ill. Filed May 5, 1930. 3 claims. (Cl. 87-17). Casein and sulphur in water and alcohol.

1,883,391. Blowing preventative for paper-machine felt. William H. Millspaugh, assignor to The Paper and Textile Machinery Company, Sandusky, Ohio. Filed Jan. 31, 1930. 2 claims. (Cl. 92-49).

1,883,478. Process of purifying cellulose material. Harry P. Bassett, Cynthiana, Ky. Filed June 4, 1929. 4 claims. (Cl. 92-13).

1,883,485. Laminated sheet building material. Charles J. Beckwith, assignor to Johns-Manville Corporation, New York, N. Y. Filed Feb. 27, 1928. 4 claims. (Cl. 154-2).

1,883,486. Laminated sheet material. Charles J. Beckwith, assignor to Johns-Manville Corporation, New York, N. Y. Filed July 29, 1930. 4 claims. (Cl. 154-45.9).

1,883,526. Method and apparatus for applying designs to papers and the like. Cassius M. Bryan, assignor to Strathmore Paper Company, Mittenague, Mass. Filed June 18, 1928. 11 claims. (Cl. 92-42).

1,883,535. Process for producing on paper or fabric a suede-like finish of waterproof property. Andre Burnett, Wausau, Wis. Filed Oct. 7, 1929. 3 claims. (Cl. 91-68). Comminuted material is applied to paper with an adhesive coating.

1,883,846. Process of bleaching bast fibers, especially the bast fibers of linen, hemp and the like. Helmut Korte, assignor to I. G. Farbenindustrie Aktiengesellschaft, Frankfort-on-the-Main, Germany. Filed Mar. 20, 1930. 4 claims. (Cl. 8-2).

October 25, 1932

1,883,876. Preparation of fiber and fiber pulp. Roger B. Brown, assignor to Daniel Manson Sutherland, Jr., Morrisville, Pa. Filed Sept. 2, 1930. 2 claims. (Cl. 92-20). Method of preparing slivers of ribbons and shredding these slivers.

1,833,887. Drier for fiber board. Francis S. Farley, assignor to Daniel Manson Sutherland, Jr., Morrisville, Pa. Filed Aug. 29, 1929. 11 claims. (Cl. 92-39).

1,883,888. Mold for fiber board. Francis S. Farley, assignor to Daniel Manson Sutherland, Jr., Morrisville, Pa. Filed Dec. 12, 1930. 11 claims. (Cl. 92-61).

1,883,889. Apparatus for feeding and aligning sheet material. Francis S. Farley, assignor to Daniel Manson Sutherland, Jr., Morrisville, Pa. Filed Jan. 23, 1931. 10 claims. (Cl. 198-30).

1,883,890. Apparatus for feeding and aligning sheet material. Francis S. Farley, assignor to Daniel Manson Sutherland, Jr., Morrisville, Pa. Filed Jan. 23, 1931. 17 claims. (Cl. 198-30).

1,884,038. Waterproofed fibrous product. George James Manson, assignor to Mansons Chemical Company, Montclair, N. J. Filed Apr. 25, 1927. 4 claims. (Cl. 92-21). The pulp carries a dispersion of encysted water-repellant substance.

1,884,075. Consistency responsive device. Sidney E. Meyers, assignor of one-half to Ericsson H. Merritt, Lockport, N. Y. Filed June 15, 1931. 12 claims. (Cl. 92-46).

1,884,174. Mounted board and method of making the same. Kenneth L. Ozmun, assignor to Chicago Cardboard Company, Chicago, Ill. Filed Feb. 18, 1932. 18 claims. (Cl. 154-2). Method of mounting two sheets of paper on opposing sides of a cardboard.

1,884,279. Pulp grinding stone. Hans P. Scheel and Hans P. Scheel, Jr., Tacoma, Washington. Filed Aug. 29, 1931. 1 claim. (Cl. 51-206).

1,884,331. Method of and means for indicating paper dryness. Stephen A. Staege, assignor to Westinghouse Electric and Manufacturing Company, Pittsburgh, Pa. Filed May 28, 1930. 9 claims. (Cl. 73-51).

1,884,366. Pulp product and its manufacture. Daniel Manson Sutherland, Jr., Morrisville, Pa. Filed Mar. 29, 1929. 5 claims. (Cl. 92-68). A drier for pulp sheets.

1,884,367. Rot-proof fiber product. Daniel Manson Sutherland, Jr., Morrisville, Pa. Filed Sept. 10, 1930. 3 claims. (Cl. 92-21). Fiber board charged with a water-proofing material and a toxic agent.

1,884,468. Method of and apparatus for the manufacture of flat bags and envelopes. Alfred Winkler and Max Dünnebier, assignors to Baltimore Paper Company, Kansas City, Mo. Filed July 12, 1929. 22 claims. (Cl. 93-61).

1,884,486. Impregnating process. Joseph Zavertnik, Jr., assignor to The Barrett Co., New York, N. Y. Filed Dec. 19, 1928. 5 claims. (Cl. 91-68).

1,884,546. Paper making technique. Paul F. Bovard and Theodore D. Beckwith, Berkeley, Calif. Filed Nov. 14, 1931. 12 claims. (Cl. 92-21). Chloramine is introduced into the water used in making the paper stock.

1,884,553. Composition intended for coating, decorating and printing wood, metal, paper, cloth and other surfaces. Theodore F. Bradley, Westfield, N. J. Filed Apr. 11, 1927. 15 claims. (Cl. 134-79).

1,884,583. Paper machinery. Cliff R. Crawford, assignor to The Black-Clawson Company, Hamilton, Ohio. Filed Aug. 20, 1930. 14 claims. (Cl. 92-42). Web forming apparatus.

1,884,761. Waterproof fibrous product. Harold L. Levin, assignor to The Flintkote Corporation, Boston, Mass. Filed Nov. 22, 1930. 6 claims. (Cl. 92-21).

1,884,784. Paper roll. Nicholas Marcalus, assignor to Automatic Paper Machinery Co., Inc., Elizabeth, N. J. Filed Aug. 19, 1930. 4 claims. (Cl. 206-59).

November 1, 1932

1,885,113. Water and flameproof paper. Thomas Jenkins, assignor to Norristown Magnesia and Asbestos Company, Norristown, Pa. Filed Nov. 12, 1930. 8 claims. (Cl. 92-3). Asbestos, wood fiber and sodium silicate are used.

1,885,163. Take-up for Fourdrinier machines. Joseph A. White, assignor to The Moore and White Company, Philadelphia, Pa. Filed Dec. 12, 1931. 5 claims. (Cl. 92-44).

1,885,164. Fourdrinier machine. Joseph A. White, assignor to The Moore and White Company, Philadelphia, Pa. Filed Dec. 31, 1931. 5 claims. (Cl. 92-44).

1,885,167. Machine for treating paper board and process. Allen Abrams, assignor to Marathon Paper Mills Company, Rothschild, Wis. Filed Dec. 19, 1928. 5 claims. (Cl. 91-70). Method of impregnating with sulphur.

1,885,185. Method of sizing fibrous material. Francis J. Curtis, assignor to Marrimac Chemical Company, Inc., Boston, Mass. Filed Aug. 10, 1929. 7 claims. (Cl. 92-21). Alum and sodium aluminate are used.

1,885,209. Paper stretch tester. Herman Koester, assignor to The Bristol Company, Waterbury, Conn. Filed July 1, 1930. 5 claims. (Cl. 73-51).

1,885,254. Articulated drive shaft for flat screens. Sidney B. Gorbutt, assignor to Electric Steel Foundry Company, Portland, Ore. Filed Apr. 7, 1930. 2 claims. (Cl. 92-32).

1,885,261. Stencil sheet. Shinjiro Horii, Kanda-Ku, Tokyo, Japan. Filed Oct. 17, 1931. 6 claims. (Cl. 41-38.6). Tissue paper coated with mineral waxes and an esterification product of montan wax and polyhydric alcohols.

1,885,280. Reenforced paper and method of making the same. Henry D. Moore, assignor to American Reenforced Paper Company, Attleboro, Mass. Filed Jan. 31, 1931. 14 claims. (Cl. 154-2).

1,885,334. Process and equipment for forming sheets. William A. Darrah, Chicago, Ill. Filed Sept. 9, 1929. 21 claims. (Cl. 92-39).

1,885,561. Accumulator system, Jerry W. Stevens and William H. Kenety, assignors to Chemipulp Process Inc., Watertown, N. Y. Filed Jan. 15, 1931. 9 claims. (Cl. 92-11). Apparatus for recovering relief material and the heat thereof from the bleeding of heated pressure cookers.

1,885,587. Spirally coiled paper tubing and method of making. Ralph P. Burton, Chicago Heights, Ill. Filed Feb. 12, 1931. 11 claims. (Cl. 93-94).

land. Filed Oct. 14, 1930. 8 claims. (Cl. 92-20). Use of centrifugal force in water at 80°C.

1,886,054. Device for producing box parts with inserted edge lining. Alfred Johannes Schmiedel, assignor to the Firm "Universelle" Cigarettenmaschinen Fabrik J. C. Muller and Co., Dresden, Germany. Filed June 12, 1929. 7 claims. (Cl. 93-39).

1,886,055. Method of forming boxes consisting of two parts, one of which has a curved wall. Johannes Schmiedel, assignor to the Firm "Universelle" Cigarettenmaschinen Fabrik J. C. Muller and Co., Dresden, Germany. Filed Jan. 9, 1930. 6 claims. (Cl. 93-39).

1,886,120. Paper manufacture. Harold Robert Rafton, assignor to Raffold Process Corporation, a Corporation of Massachusetts. Filed Dec. 30, 1931. 55 claims. (Cl. 92-21). A size comprising saponifiable matter largely in unsaponified form is used.

1,886,231. Coating device. George Sague, assignor to George Sague Manufacturing Corporation, Oakes, N. Y. Filed Oct. 24, 1927. 1 claim. (Cl. 93-61). A liquid coating device for envelopes.

1,886,312. Paper folding machine. Frederick L. Stanton, assignor to National Paper Products Company, Carthage, N. Y. Filed Nov. 30, 1929. 24 claims. (Cl. 270-73).

November 8, 1932

1,886,428. Machine for staining paper strips. Wade E. Sackner, assignor to Grand Rapids Fibre Company, Grand Rapids, Mich. Filed May 11, 1931. 3 claims. (Cl. 91-31).

1,886,456. Method of making roofing. Jules L. Wettlaufer, assignor to The Patent and Licensing Corporation, Boston, Mass. Filed July 5, 1929. 13 claims. (Cl. 154-2).

1,886,508. Apparatus for indicating and controlling web variations. Frederick Wierk, assignor to Johnson and Wierk, Inc., New York, N. Y. Filed Mar. 26, 1931. 2 claims. (Cl. 92-38). Electrical means responsive to variations in the dielectric strength of the web for indicating variations of the web material from a condition of uniformity.

1,886,550. Art of gumming paper. Ferdinand W. Huempfner, assignor to Mid-States Gummed Paper Company, Oak Park, Ill. Filed Nov. 13, 1930. 3 claims. (Cl. 154-43).

1,886,728. Envelope making machine. Charles F. Pflanze, Webster Groves, Mo. Filed Feb. 5, 1931. 15 claims. (Cl. 93-61).

1,886,861. Bed plate. Albert J. Allison, assignor to Simonds Worden White Company, Dayton, Ohio. Filed Sept. 17, 1928. 9 claims. (Cl. 92-27).

1,886,928. Apparatus for producing laminated sheets. Julius Wyss, assignor to New England Spun Silk Corporation, New York, N. Y. Filed Mar. 26, 1930. 1 claim. (Cl. 154-37).

1,887,134. Truck for handling rolls of newsprint paper. Thomas Johancen and Edward E. Kehoe, assignors to The Monomelt Company, Baltimore, Md. Filed Oct. 17, 1930. 9 claims. (Cl. 214-65.4).

1,887,143. Paper making apparatus. William A. N. Spencer and Wilbert A. Spencer, Lee, Mass. Filed Apr. 5, 1930. 21 claims. (Cl. 92-43). Apparatus for making separate sheets of deckle edge paper.

1,887,225. Pulping and shredding system. George Stanford Witham, Jr., Hudson Falls, N. Y. Filed Sept. 1, 1927. 28 claims. (Cl. 92-20).

1,887,241. Process for producing fiber or pulp. Henry Stinson Hooper, assignor to Penobscot Chemical Fibre Company, Penobscot, Maine. Filed Feb. 10, 1931. 10 claims. (Cl. 92-13). Wood is first cooked with sodium carbonate at 330° F. for 0.5 to 1 hour and then with sodium hydroxide at 340° F. for 2 to 4 hours.

1,887,246. Process for refining and discoloring of raw sulphate soft soap. Evald Pyhälä, assignor to O. Y. Methods Ltd., Viipuri, Finland. Filed Sept. 8, 1931. 5 claims. (Cl. 87-16). Hydrogen peroxide is used.

1,887,307. Scoring and trimming machine. Clifford E. Ives, assignor to United States Gypsum Company, Chicago, Ill. Filed Oct. 16, 1930. 17 claims. (Cl. 92-70).

1,887,464. Production of wall protective means. Erno Pick, assignor to Picklin Baustoff G. m. b. H., Berlin, Germany. Filed July 8, 1930. 2 claims. (Cl. 154-2).

November 15, 1932

1,887,587. Process for continuous bleaching of fibrous materials. Emil Ekeberg, Konga, Sweden. Filed Aug. 27, 1930. 2 claims. (Cl. 8-2).

1,887,680. Bag making machinery. Harold E. Hallam, assignor to International Paper Company, New York, N. Y. Filed May 8, 1931. 8 claims. (Cl. 93-18).

1,887,726. Insulating paper. Louis Weber, Chicago, Ill. Filed Feb. 14, 1930. 5 claims. (Cl. 92-3). Interlaced slag wool and asbestos fibers with a binder.

1,887,728. Defibering machine. William G. Hagmaier and Ernest C. Shaw, assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis. Filed Feb. 27, 1930. 13 claims. (Cl. 83-75).

1,887,758. Apparatus for making products from

plastic materials. Francis H. Harney, assignor to The Upson Company, Lockport, N. Y. Filed Mar. 11, 1931. 9 claims. (Cl. 154-1).

1,885,607. Method of making compound wall structures. Luther L. Knox, assignor to Knox Products Company, Pittsburgh, Pa. Filed May 14, 1926. 8 claims. (Cl. 154-28).

1,885,764. Pulp manufacture. Roger W. Richardson, assignor to E. I. du Pont de Nemours and Company, Wilmington, Del. Filed Oct. 21, 1931. 8 claims. (Cl. 92-2). Cellulosic material is digested with ammonia and then with ammonium bisulphite.

1,885,918. Recovery of relief material. William H. Kenety, assignor to Chemipulp Process Inc., Watertown, N. Y. Filed Jan. 17, 1931. 13 claims. (Cl. 92-11).

1,886,020. Process of and apparatus for treating fibrous material. Fritz Hoyer, assignor to A. G. für Halbzellstoff-Industrie, Basel, Switzer-

1,887,759. Method of making products from plastic material. Francis W. Harney, assignor to The Upson Company, Lockport, N. Y. Filed May 6, 1932. 10 claims. (Cl. 154-2).

1,887,863. Process for making pulp. Earl P. Stevenson, assignor to Arthur D. Little Industrial Corporation, Cambridge, Mass. Filed Nov. 15, 1929. 9 claims. (Cl. 92-14). Pulp from hard wood by digesting in water and an insoluble carbonate.

1,887,864. Wrapped box. John S. Stokes, assignor to Stokes and Smith Company, Summerdale, Pa. Filed Mar. 22, 1930. 34 claims. (Cl. 93-2).

1,887,899. Production of pulp. Linn Bradley and Edward P. McKeefe, assignors to Bradley-McKeefe Corporation, New York, N. Y. Filed Mar. 2, 1925. 22 claims. (Cl. 92-11). Wood chips in a vacuum are treated with sulphur dioxide gas and then with an alkaline cooking liquor.

1,887,908. Barking machine. Anders Tycho Tidblad, Soderhamn, Sweden. Filed Apr. 4, 1930. 5 claims. (Cl. 144-208).

1,887,923. Process of manufacturing corrugated plastic board. Hans Elmiger, St. Louis, Mo. Filed Oct. 18, 1930. 1 claim. (Cl. 154-33).

1,887,934. Method of marking and producing designs on paper. Otto Kress, Appleton, Wis. Filed June 5, 1929. 2 claims. (Cl. 92-40). A bleaching compound is applied to a predetermined area of a damp sheet web of paper.

1,887,955. Paper pulp extractor. Lamuel V. Réese and George W. Johnson, assignors to The American Laundry Company, Cincinnati, Ohio. Filed Mar. 2, 1931. 4 claims. (Cl. 233-2).

1,887,959. Manufacture of pulp rovings. John C. Sherman, assignor to Brown Company, Berlin, N. H. Filed June 6, 1931. 4 claims. (Cl. 92-39).

1,887,979. Fibrous covering and method of making same. Harold L. Levin, assignor to The Flintkote Corporation, Boston, Mass. Filed May 29, 1930. 7 claims. (Cl. 91-68). Floor covering.

November 22, 1932

1,888,409 Paper. Elmer C. Schacht, assignor to Behr-Manning Corporation, Troy, N. Y. Filed Dec. 16, 1931. 6 claims. (Cl. 154-45.5). Comminuted cork and fibers with a flexible binder.

1,888,410. Laminated article. Elmer C. Schacht, assignor to Behr-Manning Corporation, Troy, N. Y. Filed Mar. 11, 1932. 6 claims. (Cl. 154-45.5). Cork and fibers with flexible binder.

1,888,575. Cleansing apparatus. Gilbert J. Schofield, Albany, N. Y. Filed July 6, 1928. 10 claims. (Cl. 92-50). Method for moving nozzle.

1,888,581. Process of recovering rosin from rosin-containing soap produced in the manufacture of paper pulp from rosin-containing wood. Leavitt N. Bent, assignor to Hercules Powder Company, Wilmington, Del. Filed May 25, 1927. 3 claims. (Cl. 87-2).

1,888,632. Digesting process and apparatus. Thomas Leonidas Dunbar and Albert Darius Merrill, Watertown, N. Y. Filed Apr. 8, 1931. 38 claims. (Cl. 92-11). Method of using high acid content cooking liquor.

1,888,672. Composite sheet. Marshall R. Howard, Kenosha, Wis. Filed Sept. 22, 1930. 1 claim. (Cl. 91-67.9). Method of forming playing cards or similar paper stock.

1,888,771. Manufacture of felted fibrous sheet material of high absorptivity. George A. Richter and Henry A. Chase, assignors to Brown Company, Berlin, N. H. Filed Aug. 5, 1931. 9 claims. (Cl. 92-3). Water-laid sheet of loosely felted wood pulp.

1,888,772. Manufacture of bituminous fibrous webs. George A. Richter and Henry A. Chase, assignors to Brown Company, Berlin, N. H. Filed Oct. 20, 1931. 6 claims. (Cl. 92-3). An asphalt-impregnated sheet for roofing, etc.

1,888,892. Dandy roll. John R. Sinclair, Holyoke, Mass. Filed Sept. 29, 1931. 4 claims. (Cl. 92-48).

November 29, 1932

1,889,020. Method of coloring paper. William H. Grogan and Frank C. Lass, assignors to Keith Paper Company, Turner Falls, Mass. Filed Dec. 24, 1931. 10 claims. (Cl. 92-40). Bubbles of colored liquids are introduced into paper stuff.

1,889,046. Apparatus for decorticating timber. Per Foss, Velsen-Noord, Netherlands. Filed Apr. 24, 1931. 12 claims. (Cl. 144-208).

1,889,158. Method of controlling the treatment of vegetable matter to obtain cellulose therefrom by manipulation of the vomit pipes. Edmondson Spencer, assignor of one-half to Edward Charles Benthall, Calcutta, British India. Filed Mar. 20, 1929. 3 claims. (Cl. 92-7).

1,889,177. Making paper board. Charles L. Keller, assignor to The Richardson Company, Lockland, Ohio. Filed Sept. 13, 1929. 4 claims. (Cl. 154-40). Method of applying outer sheet.

1,889,377. Artificial wool and art of making same. Gino M. Rossati, New York, N. Y. Filed Oct. 6, 1931. 17 claims. (Cl. 92-13).

1,889,405. Process for producing water-soluble resinates. Edward H. French, Columbus, Ohio. Filed Mar. 4, 1927. 21 claims. (Cl. 87-16).

1,889,642. Sized fibrous product and method of and apparatus for producing the same. George F. Davis, Waltham, Mass. Filed Jan. 22, 1931. 9 claims. (Cl. 92-21).

1,889,643. Fibrous sheet material, composition therefore and process of making. George F. Davis, Waltham, Mass. Filed Feb. 19, 1931. 7 claims. (Cl. 92-21). Leather fiber and cellulose fiber mixture.

1,889,731. Arrangement in sieves for cellulose digesters and the like. Torsten Samson, assignor to Aktiebolaget Nordiska Armaturfabrikerna, Stockholm, Sweden. Filed May 11, 1932. 6 claims. (Cl. 92-7).

December 6, 1932

1,889,819. Method and means for delivering stock for web forming. Earl E. Berry, assignor to Beloit Iron Works, Beloit, Wis. Filed June 2, 1930. 21 claims. (Cl. 92-38).

1,889,838. Cleaning apparatus for the rolls of paper making machines. Harry T. Norman, assignor to Great Northern Paper Company, Millinocket, Me. Filed Aug. 29, 1930. 12 claims. (Cl. 15-21).

1,889,851. Method of making and treating paper. Frank G. Crane, Montague, Mich. Filed Jan. 10, 1931. 14 claims. (Cl. 92-40). Use of silicate of soda.

1,889,953. Colored effect paper. Carl Dankert, assignor to I. G. Farbenindustrie Aktiengesellschaft, Frankfort-on-the-Main, Germany. Filed Nov. 24, 1931. 3 claims. (Cl. 92-42). Application to the paper pulp on the sieve near the gate a solution of a water-insoluble cellulose derivative in an organic solvent.

1,890,017. Method of and machine for making thick butt roofing. Chester R. MacDonald, assignor to The Patent and Licensing Corporation, Boston, Mass. Filed Mar. 1, 1926. 36 claims. (Cl. 91-68).

1,890,018. Method of and machine for vertically coating continuous strips of roofing material. Frederick C. Overbury, assignor to The Patent and Licensing Corporation, Boston, Mass. Filed Apr. 6, 1926. 21 claims. (Cl. 91-68).

1,890,071. Paper working machine. Frank G. Wikstrom, assignor to Lily-Tulip Cup Corporation, New York, N. Y. Filed Nov. 17, 1931. 5 claims. (Cl. 93-36). Crimping head and frictions means for heating said head.

1,890,179. Prepared refined bleached pulp. Horatio A. Helder, assignor to The Champion Fibre Company, Canton, N. C. Filed June 15, 1928. 5 claims. (Cl. 92-7).

1,890,184. Producing board-like material with the aid of mineral wool. Isidor Kitsee, assignor to Mineralite Corporation, Philadelphia, Pa. Filed Nov. 21, 1929. 2 claims. (Cl. 92-3). Board of mineral wool with a smooth surfacing.

December 13, 1932

1,860,462. Rosin size. William H. Harding and Sidney V. Burrows, assignors to The Kalbfleisch Corporation, New York, N. Y. Filed Mar. 17, 1931. 6 claims. (Cl. 134-21). A rosin size having a free rosin content of greater than 22% is treated with a strong alkaline solution and heated.

1,890,477. Taping machine. Joshua Wagner, assignor to Progressive Corrugated Paper Machinery Company, Inc., Brooklyn, N. Y. Filed Apr. 29, 1929. 5 claims. (Cl. 91-51).

1,890,491. Consolidated lignin and method of producing the same. Friedrich Bergius, Friedrich Koch and Eduard Faerber, assignors to The Firm Holzhydrolyse Aktiengesellschaft, Heidelberg, Germany. Filed Jan. 25, 1930. 7 claims. (Cl. 44-15).

1,890,568. Apparatus for drying webs, strips, films or sheets as manufactured from cellulose products. Ernst Bleibler, assignor to Sylvania Industrial Corporation, Fredericksburg, Va. Filed Oct. 23, 1930. 10 claims. (Cl. 34-48).

1,890,622. Jordan engine. Emil A. Peterson, assignor to Valley Iron Works Company, Appleton, Wis. Filed Aug. 26, 1929. 9 claims. (Cl. 92-27).

1,890,634. Flow rectifier for paper stock. Max Wenzel, Neidhardtsthal, Germany. Filed Dec. 23, 1931. 13 claims. (Cl. 92-44).

1,890,799. Paper stock regulator. Harold Donald Wells, Glens Falls, N. Y. Filed May 22, 1930. 17 claims. (Cl. 92-46).

1,890,832. Method for drying thin cellulose sheets. Carl Hermann von Hoessle and Otto Martin Schade, assignors to Chemische Fabrik von Heyden, A. G., Radebeul, near Dresden, Germany. Filed Dec. 6, 1930. 8 claims. (Cl. 34-24).

1,891,027. Artificial leather and process of manufacturing same. George A. Richter, assignor to Brown Company, Berlin, N. H. Filed Mar. 16, 1927. 18 claims. (Cl. 91-68). A high alpha cellulose-containing wood fiber permeated with rubber.

December 20, 1932

1,891,245. Shredding machine. Dell W. Sarvay, John J. Grieb, and Allen J. Fritz, assignors to Ryther and Pringle Company, Carthage, N. Y. Filed Mar. 9, 1932. 13 claims. (Cl. 92-20).

1,891, 337. Process of producing cellulose. Stewart Elmer Seaman, assignor to E. I. du Pont de Nemours and Company, Wilmington, Del. Filed Jan. 9, 1930. 23 claims. (Cl. 92-11). Mixture of ammonium sulphite and ammonium sulphide.

1,891,367. Paper box making machinery. George H. Broderick, assignor to Ottawa River Paper Company, Toledo, Ohio. Filed Nov. 1, 1930. 19 claims. (Cl. 93-48).

1,891,476. Molding process. Charles L. Keller, assignor to The Richardson Company, Lockland, Ohio. Filed July 2, 1928. 4 claims. (Cl. 92-54).

1,891,535. Paper of fiber can. Dickinson E. Griffith, assignor to Smith-Lewis Fibre Can Corporation, Lowville, N. Y. Filed Feb. 3, 1930. 5 claims. (Cl. 225-5.6).

1,891,730. Composition for and method of papermaking. George A. Richter, assignor to Brown Company, Berlin, N. H. Filed May 25, 1928. 14 claims. (Cl. 92-21). The long fiber fraction of the pulp and gelatinized cellulose are used.

1,891,732. Building board. Edward S. Sheperd, assignor to Albert D. Stewart, St. Joseph, Mo. Filed Jan. 25, 1932. 1 claim. (Cl. 92-3). A straw product.

1,891,788. Woven wire belt for paper-making machines. Nelson W. Webb, assignor to Eastwood Wire Corporation, Belleville, N. J. Filed Aug. 29, 1930. 5 claims. (Cl. 245-10).

1,891,866. Spinner for paper containers. Andrew Bodor, assignor to Reinforced Paper Bottle Corporation, New York, N. Y. Filed Sept. 26, 1929. 5 claims. (Cl. 93-36).

December 27, 1932

1,891,957. Device for distributing wood chips in pulp digesters. Bernard F. Smith, assignor to Paper Patents Company, Neenah, Wis. Filed Dec. 5, 1931. 5 claims. (Cl. 92-7).

1,892,059. Method of treating paper wrapping strip. Joseph A. Kennedy, assignor to Anaconda Wire and Cable Company, New York, N. Y. Filed May 19, 1930. 7 claims. (Cl. 91-70). Paper is saturated with wax and then treated with an aqueous soap solution.

1,892,083. Method of waxing blanks. Melvin H. Sidebotham, assignor to Specialty Automatic Machine Company, Chelsea, Mass. Filed July 16, 1931. 3 claims. (Cl. 91-68).

1,892,100. Treatment of a sodium carbonate-sodium sulphide residual liquor. Linn Bradley and Edward P. McKeefe, assignors to Bradley-McKeefe Corporation, New York, N. Y. Filed Apr. 4, 1928. 22 claims. (Cl. 23-129).

1,892,214. Doctor mechanism for rolls and cylinders. Frederick W. Lodding, Worcester, Mass. Filed June 22, 1929. 13 claims. (Cl. 92-74).

1,892,237. Manufacture of valves in paper sacks. George S. Hoover, Wellsburg, W. Va. Filed Dec. 7, 1929. 10 claims. (Cl. 93-8).

1,892,409. Process of digesting wood. Spencer W. Prentiss, assignor to Potlatch Forests, Inc., Lewiston, Idaho. Filed Dec. 16, 1931. 6 claims. (Cl. 18-47.5). Wood is digested with an aqueous alkaline phenol solution, adding an aldehydic body, heating and molding.

1,892,471. Manufacture of paper. Harold R. Rafton, assignor to Raffold Process Corporation, Andover, Mass. Filed Mar. 24, 1930. 17 claims. (Cl. 92-38). Alkaline filler; the solids which are delivered to the web-forming device but which do not pass through the driers are returned to the fibrous mix.

1,892,472. Manufacture of paper. Harold Robert Rafton, assignor to Raffold Process Corporation, Andover, Mass. Filed Mar. 31, 1930. 23 claims. (Cl. 92-21). Alkaline filler is added to sized fibrous material.

1,892,484. Machine for coating paper, fabric or the like. Thomas Henry Lancelot Dixon, Letchworth, England. Filed Mar. 13, 1930. 1 claim. (Cl. 242-58).

1,892,658. Treating wood. Peter J. Wiezevich, assignor to Standard Oil Development Company, Linden, N. J. Filed Dec. 21, 1931. 7 claims. (Cl. 99-12). Fiber board is impregnated with montan or a similar high melting wax, the product being subjected to a pretreating step comprising contact with an acidic gas.

CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Sturgis, Mich.—The Harvey Paper Products Company, Sturgis, manufacturer of paper dishes, cups, wrapping stocks, etc., is said to be considering the construction of a new one-story addition to plant for increased production facilities. No estimate of cost has been announced.

Marshallton, Dell.—The Continental Diamond Fibre Company, Newark, Del., is completing an expansion and improvement program at its branch mill at Marshallton, and will occupy with a subsidiary organization, recently formed, at an early date. Work includes the construction of a new one-story addition, 50 x 200 feet, and installation of additional equipment. The new company is known as the "Haveg," a new fiber product for use primarily in corrosion resistant equipment. It is proposed to begin operations at the plant at an early date, giving employment to a sizable working quota.

Chicago, Ill.—The Burgess Envelope Company, Inc., 622-28 West Adams street, has been organized with capital of 200 shares of stock, no par value, and plans operation of a local plant for paper converting service, specializing in the manufacture of envelopes and allied paper goods. The new company is headed by Oscar W. and Hampton H. Burgess.

Cleveland, Ohio—The Industrial Rayon Corporation, East 98th street and Walford avenue, manufacturer of cellulose rayon products, has awarded general contract to George A. Rutherford & Co., 2725 Prospect avenue, for proposed new additions to mill, recently referred to in these columns. Work will include two new wing units, and improvements in present plant, and is estimated to cost over $75,000, with equipment. Christian, Schwarzenberg & Gaede Company, 1836 Euclid avenue, Cleveland, are architects. Hiram S. Rivitz is president.

Midland, Cal.—The United States Gypsum Company, 816 West Fifth street, Los Angeles, Cal., manufacturer of wallboard and other building products, has awarded general contract to the Austin Company of California, 777 East Washington street, Los Angeles, for the construction of a new mill at place known as Midland, for the manufacture of wallboard, plasterboard and allied specialties. The new unit will be one-story, 56 x 360 feet, and is reported to cost over $75,000, with equipment. Headquarters of company are at 300 West Adams street, Chicago, Ill.

Wausau, Wis.—The Minnesota Mining and Manufacturing Company, 791 Forest street, Minneapolis, Minn., manufacturer of sandpaper and other abrasive paper materials, has awarded general contract to the Krause Construction Company, Wausau, for proposed extensions and improvements in local plant, including interior alterations. Work will be placed under way at once. An order for structural steel has been placed with the Wausau Iron Works, Wausau. Estimated cost of work has not been announced.

Lockport, N. Y.—The Upson Company, Upson Point, manufacturer of fiber products, wallboard specialties and kindred board products, has developed a new department at local mill for the production of jigsaw or cut puzzles, using fiber material about 3/16-inch thick for the output. The division is now running on a basis of about 15,000 cut puzzle units per day, giving employment to a working force of about 60 operatives. It is expected to hold to present output basis for an indefinite time.

New York, N. Y.—S. J. Redlich, Inc., 35 Wooster street, manufacturers of paper boxes and containers, has leased ground floor space in the building at 90-94 Grand street, corner of Greene street, and will use for expansion.

Columbus, Ohio—The Fiber Products Company, Inc., recently organized, is said to be planning early operation of a local plant for production of a line of fiber specialties. The company is capitalized at 250 shares of stock, no par value, and is headed by I. B. Lentz and Harry S. Cump, both of Columbus.

Long Island City, N. Y.—In connection with recent lease of space in building at Thomson avenue and Manly street, Long Island City, by the Seinsheimer Paper Company, 1240 York street, Cincinnati, Ohio, recently referred to in these columns, it is proposed to use the space, totaling about 12,000 square feet, for line of paper bags and containers, paper shades, etc., manufactured by the company, using for an eastern branch plant.

New Companies

New York, N. Y.—The American Paper Products Company, Inc., has been incorporated with a capital of $100,000, to manufacture and deal in paper products of various kinds. The incorporators include Albert Newman, 2215 Newkirk avenue, Brooklyn, N. Y., and J. M. Rubinstein, Hotel White, New York, N. Y.

Cleveland, Ohio—The Winter Paper Stock Company, Inc., has been incorporated with a capital of $75,000, to manufacture and deal in paper goods of different kinds. The incorporators are J. C. Winter and H. R. Peterson. The company will take over and succeed to the Winter Paper Stock Company, St. Clair avenue and East Thirty-eighth street, Cleveland.

DeLand, Fla.—The Florida Palmetto Fibre Company has been organized to manufacture fiber specialties of various kinds. The incorporators are F. W. Weitzel and J. A. Wright, both of DeLand.

Boston, Mass.—The Peter Cooper Corporations of Massachusetts, Inc., has been incorporated to manufacture sandpaper and kindred products. The new organization will take over the company of the same name at 121 Beverly street. Harold W. Cairns is president of the new company, and D. A. Hogan, vice-president and treasurer.

United States Wood Pulp Review for 1932

Written Specially for the PAPER TRADE JOURNAL by John A. C. Kavanagh

The domestic wood pulp industry's operations in 1932 reflected the irregular rate of operation of the paper industry and the pulp market, being a world market, reflected the influence of both foreign and domestic conditions. During the past year there was improvement in the attitude of paper manufacturers toward the use of bleached sulphate, a more even quality was developed in the manufacture of unbleached sulphite by the further improvement in manufacturing process through indirect heating forced circulation, and in the case of bleached sulphite there was some evidence of a tendency on the part of domestic converting mills to purchase an increased amount of domestic pulp. Imports of bleached sulphite, according to preliminary figures, showed the least decline from a year ago of any of the major grades of pulp.

Pulp Production Irregular

The trend of pulp production during 1932 was irregular and downward, with a first quarter of the year showing a promise of improvement which failed to materialize as the year went on and the same held true of pulp imports. At the end of the first quarter of 1932 the imports of major grades of pulp were running ahead of the corresponding period in 1931 but this did not hold out to the end of the year. Imported pulp prices showed a reasonable degree of stability as a result of price agreements abroad, though the demand was subnormal.

During 1932 the fluctuations in the rate of operation of the various major grades of wood pulp were much more pronounced than in previous years. Most grades showed a sharp seasonal upturn during the first quarter of the year, only to be followed by an unusually sharp decline in the rate of operation which lasted until July when there was a moderate upturn. Imports of foreign wood pulp help up comparatively well and it is estimated that mechanical pulp imports were about 12½ per cent below a year ago, unbleached sulphite about 14 per cent below; bleached sulphite about 3½ per cent below; and unbleached sulphate approximately 4 per cent below 1931. Chemical pulp inventories were ample and a number of mills kept their inventories at "normal" and bought in small quantities when necessity demanded. The American Paper and Pulp Association's monthly identical mill reports, which are the only current reports available on operations in the major grades of wood pulp, indicate trends during 1932 as outlined in the following paragraphs covering the more important grades of wood pulp.

UNITED STATES WOOD PULP PRODUCTION

	*1932	1931	1930	1929
Total	3,787,000	4,409,344	4,630,308	4,862,885
Mechanical	1,250,000	1,449,240	1,560,221	1,637,653
Sulphite	1,162,000	1,416,671	1,567,063	1,628,707
Bleached	630,000	740,812	751,166	839,953
Unbleached	532,000	675,859	815,897	848,754
Sulphate	950,000	1,034,291	949,513	910,888
Soda	307,000	374,054	474,230	520,729
Semichemical	118,000	86,628	30,213	40,481
Screenings		48,460	49,068	64,427

* 1932 Estimated. 1929, 1930, 1931—Bureau of Census.

Ground Wood Pulp Output

The United States production of mechanical pulp during 1932 was at the rate of approximately 65 per cent of 1926, while the prices of mechanical pulp dropped to about 60 per cent of the 1926 level. Inventories at producing mills were substantially below the levels of the preceding year and during the last quarter of the year showed the usual seasonal tendency to decrease sharply. The production of mechanical pulp during the first half year showed less than the usual seasonal increase, and the seasonal decrease started in May and lasted through July, when a moderate increase set in. Total imports of mechanical pulp fell off about 12½ per cent from the level of 1931 and this loss was sustained mainly by Canada, while imports from the Scandinavian countries, particularly Finland, increased over the preceding year.

In 1932 the rate of operation of bleached sulphite showed sharper than usual fluctuations, while throughout 1931 the production was maintained at a fairly even rate and was moderately lower than for 1930. In the first quarter the rate of operation was sharply upward after which the direction was reversed and the downward movement continued until July. At the low point in July, operations were about 72 per cent of the 1926 level. The American Paper and Pulp Association's survey showing inventory conditions at pulp purchasing mills indicated that stocks on hand were somewhat above normal. Imports of bleached sulphite pulp showed the most moderate rate of decrease from the preceding year of any of the major grades, according to the available reports.

The trend of production of unbleached sulphite has been steadily downward since the end of 1929 and the low points in July and September, 1932, brought operations down to somewhat less than 50 per cent of the 1926 monthly average production. Fluctuations in production were quite sharp, just as in the case of bleached sulphite and followed a similar pattern, increasing sharply in the first quarter and then decreasing rapidly and remaining at a low level from June to September. Total imports of unbleached sulphite pulp ran about 14 per cent below the level of a year ago, but imports from Finland and Norway held up although they are a relatively small part of the total. Foreign prices ex dock U. S. A., were about 50 per cent of the 1926 level.

Kraft Pulp Operations

Kraft pulp operations in 1932 also fluctuated with an unusual degree of irregularity and from May until August ran at the low level for the year, after which operations increased sharply. Sulphate pulp was the only major grade to show a continued increase in total production through the years 1930 and 1931 while other grades were decreasing from the 1929 level and the estimated decrease for 1932 is the first evidence of reduced domestic kraft pulp production. A great deal of improvement has taken place in the bleaching of sulphate pulp and the attitude of manufacturers toward its use is an optimistic sign. The ex dock U. S. A. prices of foreign kraft pulp were about 48 per cent of the 1926 level.

At the close of the year we find the total U. S. production of wood pulp off about 12½ per cent from the level of 1931 and total imports about 9 per cent smaller than for the preceding year. Although Sweden experienced a strike, which accounted for a loss of production of approximately 47,000 tons of bleached sulphite, 453,000 tons of unbleached sulphate and 249,000 tons of sulphate, the market did not feel the loss of this tonnage and it did not obviate the necessity of "pegged" prices. Foreign competition as a result of a sharp difference in exchange

values in the dollar and foreign currencies has been a major factor in bringing about unprecedented low prices in wood pulp. Determined efforts on the part of self-contained mills to have legislative action taken to correct this matter have materialized and at the same time many converting mills which buy pulp are opposing legislative action.

Ron-Noc-O Files Petition

[FROM OUR REGULAR CORRESPONDENT]

DEXTER, N. Y., February 6, 1933—A voluntary petition in bankruptcy has been filed by the Ron-Noc-O Paper Company in federal court showing liabilities of $129,079 and assets of $109,390. The decision to file the petition was reached at a meeting of the directors several days ago when John J. O'Connor, president, was given authority. The only secured creditor is John J. Warren, of Brownville, who holds a mortgage on the plant for $100,000 which is equivalent to its value. Mr. O'Connor holds a salary claim amounting to $9,292.

Among the creditors are the Dexter Pulp Company, Papermakers Chemical Company, Watertown Machine Company, Village of Dexter and Northern New York Utilities Company. Taxes on the property amount to $2,463, while unsecured claims are $23,559 and notes $2,362. Assets besides the plant include merchandise valued at $3,245; bills, $940; vehicle, $500 and accounts, $4,704.

Paper Salesmen's Luncheon Plans

Instead of the usual speaker, the Program Committee of the Salesmen's Association of the Paper Industry is providing a unique feature for the Annual Luncheon, which takes place at the Hotel Pennsylvania on Tuesday, February 14.

It is a dramatic presentation of a sales message that has been given before some of the largest selling organizations in the country. Prominent sales executives have hailed it as a message of importance to every salesman and sales executive. The dramatized sales message will be put on by Professors R. C. Borden and Alvin C. Busse, of New York University, who have analyzed thousands of sales successes and failures for more than two years past.

News Print Service Bureau Elects

At the annual meeting of the News Print Service Bureau held in Montreal on January 27, the following officers were elected for the ensuing year:

President, C. K. Blandin, Blandin Paper Company, St. Paul, Minn.; Vice President, A. E. McMaster, Powell River Company, Ltd., Vancouver, B. C.; Executive Committee, L. J. Belnap, Consolidated Paper Corporation, Montreal, Que.; N. C. Head, International Paper Company, New York; and L. R. Wilson, Abitibi Power and Paper Company, Ltd., Toronto, Ont.; Secretary-Treasurer, R. S. Kellogg, New York City.

To Manage American Tissue Chicago Office

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., January 31, 1933—Announcement was made this week by B. E. Perkins, president of the American Tissue Mills, Inc., that James F. Dean had been appointed manager of the Chicago office of the company. Mr. Dean has been with the Company for 10 years the last six years as traffic manager. His brother Henry who has been assistant manager will take his place as traffic manager.

New York Trade Jottings

S. J. Redlich, Inc., manufacturers of paper boxes, has leased space in the Mohawk Building, 160 Fifth Avenue, New York.

* * *

J. P. Heilbronn, of the J. P. Heilbronn Company, Inc., general paper merchants, of Manila, Philippine Islands, has just arrived from the East and is now ready for interviews at his office at 16 Beaver street, New York.

* * *

Eaton Paper Company, formerly known as Eaton, Crane & Pike, has leased the eleventh floor at 21 East 40th street, New York. The new premises will accommodate the New York executive offices and show rooms of both the Eaton Paper Company and its affiliate, the Crane Paper Company.

* * *

G. P. Lee, sales manager of the Eastern Manufacturing Company, gave an interesting address on the making of bond and ledger paper, illustrated with a well executed series of lantern slides, at the monthly meeting of the Associated Printing Salesmen, held at the Printing Crafts Club, New York.

* * *

The New York offices of the George W. Wheelwright Paper Company, now Wheelwright Papers, Inc., is now located at 230 Park Avenue. This office is in charge of Butler Cox, and all Wheelwright business will be transacted by him as heretofore. The telephone number is Murray Hill 2-0102.

* * *

The Linweave Association has just issued its Shakespeare Calendar for 1933, which is a notable work of art. Each month is illustrated with an appropriate scene from one of Shakespeare's plays. New York members of the Linweave Association are the Alling & Cory Company, the Beekman Paper and Card Company, Inc., and Allan & Gray.

* * *

The Hinde & Dauch Paper Company announces that the regional and local sales offices of the company, heretofore located at 2 Lafayette street, New York, will in future be quartered in the new Hinde & Dauch Building at 550-564 Ninth street, Hoboken, N. J. The telephone number is Hoboken 3-4400.

* * *

Robert B. Wolf, manager of the Pulp Division of the Weyerhaeuser Timber Company, was the guest speaker at the regular weekly luncheon and meeting of the Eastern Division of the Salesmen's Association of the Paper Industry, held at the Hotel Roosevelt, New York, on Monday last. Mr. Wolf discussed "West Coast Conditions" in an interesting and illuminating manner, and was accorded a rising vote of thanks at the conclusion of his address. There was a large attendance of members and guests, including many trade association executives.

Demand for Finnish Pulpwood Expands

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., January 31, 1933—The demand for Finnish pulpwood is reported to be more lively than for some time. Germany has been buying again, which is the first time since 1928, except for small lots. Domestic mills are also in the market. As a result there has been some advance in prices, although they still remain at extremely low levels compared with other European countries.

Obituary

Samuel Raynor Whiting

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., February 7, 1933—Samuel Raynor Whiting, 66, president of the Collins Manufacturing Company, of North Wilbraham, and Whiting & Cook, Inc., of Holyoke, papetrie manufacturers, as well as having held directorship in banks and various other organizations in and about Holyoke, died Sunday morning at his home, 1365 Northampton street, after a period of ill health.

Mr. Whiting was born in Holyoke, January 20, 1867, being second son of the late Congressman and Mrs. William Whiting. His father founded the Whiting Paper Company, of this city. He was educated in the local schools and at Williston Seminary, Easthampton and Phillips Andover Academy. After his schooling Mr. Whiting went into the mill of his father, learning the business from the bottom up. As the two sons were fitted to take executive positions, Mr. Whiting was made production manager and his brother William F. Whiting, sales manager. This arrangement continued until some time after the death of Congressman Whiting on January 9, 1911, when the mill property was divided, William F. Whiting taking the two mills in Holyoke and Samuel R. Whiting the mill of the Collins Manufacturing Company in North Wibraham.

In 1916, Mr. Whiting, with Charles W. Cook, organized the Whiting & Cook Company, Inc., to manufacture high grade stationery, etc., Mr. Whiting being president and Mr. Cook treasurer. Mr. Cook's son, Stanley W. Cook, was made vice-president and on the death of Mr. Cook, his son took his father's place in the concern.

Besides his wife, he leaves his brother, William F., and three children, Margaret, Samuel R., Jr., and James G., all at home. He was a member of the William Whiting Lodge of Masons, of Holyoke, and the Nayassett and Old Colony Clubs of Springfield.

Edmond W. Boyd

GREENWICH, N. Y., February 2, 1933—Edmond W. Boyd, for many years superintendent of the paper mill at Middle Falls of the Stevens & Thompson Paper Company, died at his home in Middle Falls early Tuesday morning. Mr. Boyd was born at Atlanta, Georgia. He is survived by his wife, Esther Langley Boyd, and two half brothers, Rudolph W. Nunez of Felts Mills, N. Y., and Dr. Morgan Nunez of Swainsburg, Georgia.

When Mr. Boyd was quite young his parents came north and located in Schuylerville. His first work was in the Bullard paper mill at that place, and later he came to Middle Falls to work for the Ondawa Paper Co., where he held responsible positions. When the Stevens & Thompson Paper Company purchased this property he soon became the superintendent of the paper manufacturing part of the plant, and for many years held this position. On account of poor health he retired from active service several months ago. Mr. Boyd was always well liked by the mill workers and his employers.

Edgar A. Bergholtz

Edgar A. Bergholtz, chemist at the American Telephone and Telegraph Company, 195 Broadway, New York, died Monday, January 30, of pneumonia after a brief illness. He was born at Jamestown, N. Y., March 30, 1891. He graduated from Holy Cross College in 1912 and received the degree of M. Sc. at Canisius College, Buffalo, N. Y. in 1914. He was a Fellow at Catholic University, Washington, D. C., in 1914-1915 and at Columbia University in 1915.

Mr. Bergholtz was analyst of dye intermediates for two years with Marden Orth & Hastings and served as chief chemist in 1918 with the New York District Ordinance Laboratory. Until the time of his death he was chemist of office and janitor's supplies for the Bell system, particularly paper, at the American Telephone and Telegraph Company.

Mr. Bergholtz was an active member of the Technical Association of the Pulp and Paper Industry and was for a time a member of the Paper Testing Committee of that Association.

George E. McElwain

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., February 7, 1933—George Edward McElwain, cousin of R. F. McElwain, one of the founders of the Crocker-McElwain Company, is dead at Middlefield. He was employed for a time at the Chemical Paper Manufacturing Company here, but retired to the McElwain farm in Middlefield about fifteen years ago.

Norwegian News Print Market Weak

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., February 4, 1933—No improvement was noted in the Norwegian news print market at the end of 1932 according to a report from Commercial Attache Lund, at Oslo.

The report states that the market appeared to be suffering from lack of cooperation within the industry, which has been responsible for an unreasonable decline in prices. Over production and a lowered consumption have also been factors, which might have been coped with, however, if some sort of production curtailment had been agreed upon. Forward contracts are difficult to secure, because of the disorganized condition of the industry and the uncertainty of the price outlook.

Algonquin Holds Annual Meeting

[FROM OUR REGULAR CORRESPONDENT]

OGDENSBURG, N. Y., February 4, 1933—The Algonquin Paper Corporation held its annual meeting recently, at which Frank A. Augsbury was chosen president. Other officers re-elected for the year are: W. E. Westbrook, vice-president-treasurer, and A. T. Whalen, secretary. The board of directors will be composed of the officers with H. P. Strong and W. S. Augsbury.

The meeting of stockholders of the George Hall Corporation, a subsidiary, resulted in the re-election of F. A. Augsbury as president. Other officers chosen included W. S. Augsbury, vice-president, and H. P. Strong, treasurer. Directors elected included the officers with J. A. Bovard and A. E. Hutchinson.

Accident Prevention Exhibit

GLENS FALLS, N. Y., February 4, 1933—An accident prevention exhibit under the supervision of the State Labor Department is being conducted in the recreation rooms of Finch, Pruyn & Co. and will continue for several days. A number of large placards quoting accident statistics and other prevention information are included in the display, while two motion picture cameras aid in the explanation of safety first precautions by illustrating the results of accidents on workers in different factories and the usefulness of artificial respiration in saving lives. The exhibit is under the direction of John N. McDowell, safety engineer, and George L. Ward, safety supervisor.

IMPORTS OF PAPER AND PAPER STOCK

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING FEBRUARY 4, 1933

CIGARETTE PAPER

Champagne Paper Corp., Pr. Roosevelt, Havre, 57 cs.; ——, Pr. Roosevelt, Havre, 379 cs.; American Tobacco Co., Aquitania, Southampton, 250 cs.; American Tobacco Co., De Grasse, Havre, 100 cs.; Max Speigel & Sons, Inc., Magallanes, Barcelona, 5 cs.; Max Seigel & Sons, Inc., Hamburg, Hamburg, 7 cs.

WALL PAPER

Universal Car Loading Co., Aachen, Bremen, 4 cs.; ——, Aquitania, Southampton, 7 bls.; F. J. Emmerich, Hamburg, Hamburg, 1 ble.; F. A. Binder, Hamburg, Hamburg, 14 bls.

HANGING PAPER

Hudson F'd'g & Shipping Co., De Grasse, Havre, 3 bls.

NEWSPRINT

Perkins Goodwin & Co., Berlin, Bremen, 64 rolls; Jay Madden Corp., Berlin, Bremen, 289 rolls; Jay Madden Corp., Aachen, Bremen, 171 rolls; Jay Madden Corp., Scanstates, Kotka, 171 rolls; ——, Scanstates, Kotka, 267 rolls; W. H. Bell, Markland, Liverpool, N. S., 3361 rolls; ——, Hamburg, Hamburg, 23 rolls.

PRINTING PAPER

C. Steiner, Berlin, Bremen, 4 cs.; P. Puttman, Black Hawk, Antwerp, 4 cs.; International F'd'g Co., Black Hawk, Antwerp, 17 cs.; Burroughs Wellcome & Co., Amer. Banker, London, 7 cs.; Phoenix Shipping Co., Hamburg, Hamburg, 5 cs.; ——, Scanstates, Wiborg, 92 rolls.

WRAPPING PAPER

Borden Riley Paper Co., Berlin, Bremen, 5 cs.; Wedeman, Godknecht & Lally, Aachen, Bremen, 2958 rolls; National City Bank, C. di Savoia, Genoa, 40 bls.; Dyson Shipping Co., Hamburg, Hamburg, 7 bls.; F. C. Strype, H. Jaspar, Antwerp, 2 cs.

PACKING PAPER

F. C. Strype, Hamburg, Hamburg, 21 cs.

DRAWING PAPER

Schenker & Co., Pr. Roosevelt, Hamburg, 1 cs.

FILTER PAPER

A. Giese & Son, Black Heron, Rotterdam, 12 cs.; E. Fougera & Co., Aquitania, Southampton, 60 cs.; H. Reeve Angel & Co. Inc., Aquitania, Southampton, 2 cs.; H. Reeve Angel & Co. Inc., Amer. Banker, London, 3 cs.

DECALCOMANIA PAPER

Sellers Transportation Co., Europa, Bremen, 11 cs.; L. A. Consmiller, Europa, Bremen, 5 cs.; Sellers Transportation Co., Hamburg, Hamburg, 10 cs.

COATED PAPER

Chas. Happel, Hamburg, Hamburg, 8 cs.; ——, Black Heron, Rotterdam, 4 cs.

METAL COATED PAPER

K. Pauli Co., Hamburg, Hamburg, 6 cs.

SURFACE COATED PAPER

Globe Shipping Co., Hamburg, Hamburg, 2 cs.; Phoenix Shipping Co., Hamburg, Hamburg, 1 cs.

PHOTO PAPER

J. J. Gavin, Aquitania, Southampton, 5 cs.

PARCHMENT PAPER

——, Aachen, Bremen, 7 cs.; F. C. Strype, H. Jaspar, Antwerp, 1 cs.

COLORED PAPER

S. Gilbert, Aachen, Bremen, 7 cs.

TISSUE PAPER

W. J. Byrnes, Aquitania, Southampton, 2 cs.; Siebert Paper Co., Scythia, Liverpool, 5 cs.; Meadows Wye & Co., Scythia, Liverpool, 1 cs.; National City Bank, C. di Savoia, Genoa, 12 cs.

ENVELOPES

Beckhard Simfred Co., Europa, Bremen, 24 cs.; Beckhard Simfred Co., Hamburg, Hamburg, 4 cs.

GUMMED PAPER

Meadows Wye & Co., Amer. Banker, London, 6 cs.

PAPER BOARD

Colmar Paper Corp., H. Jaspar, Antwerp, 6 cs.

IVORY BOARDS

Safran & Glucksman Inc., Black Heron, Rotterdam, 5 bls.; R. Wilson Paper Corp., Black Heron, Rotterdam, 29 cs., 25 rolls.

CARD BOARD

Coty Processing Co., De Grasse, Havre, 15 cs.

MISCELLANEOUS PAPER

Keuffel & Esser Co., Pr. Rosevelt, Hamburg, 8 cs.; C. Schleicher & Schull Co. Inc., Pr. Roosevelt, Hamburg, 11 cs.; Iwai & Co., Pr. Lincoln, Kobe, 4 cs.; Henschel Naeve & Co., Europa, Bremen, 2 bls.; Draeger Shipping Co., Hamburg, Hamburg, 3 cs.; ——, Hamburg, Hamburg, 11 crates.

RAGS, BAGGINGS, ETC.

E. J. Keller Co. Inc., Black Hawk, ——, 90 bls. rags; Van Oppen & Co., Black, Hawk, Antwerp, 70 bls. rags.

GLUE STOCK ETC.

H. Biersckenk Co., Black Heron, Rotterdam, 200 bags hide glue; ——, Deutschland, Hamburg, 147 bags hide glue; ——, Deutschland, Hamburg, 200 bags bone glue.

CHINA CLAY

——, N. Y. City, Bristol, 66 bags.

OLD ROPE

——, N. Y. City, Bristol, 146 coils; Castle & Overton, Inc., Francisco, Hull, 80 coils; ——, Francisco, Newcastle, 60 coils.

WOOD PULP

Irving Trust Co., Aachen, Bremen, 250 bls. wood pulp; ——, Aachen, Bremen, 1500 bls. wood pulp; Lagerloef Trading Co., Scanpenn, Helsingfors, 1400 bls. sulphite, 235 tons; Lagerloef Trading Co., Scanpenn, Wiborg, 127 bls. mechanical, 25 tons, 442 bls. sulphite, 78 tons; Castle & Overton, Inc., Scanpenn, Wiborg, 422 bls. wod pulp, 84 tons; Pagel Horton & Co., Inc., Scanpenn, Gefle, 3000 bls. sulphite, 609 tons Bulkley Dunton & Co., Scanpenn, ——, 3500 bls. wood pulp, 711 tons; Price & Pierce, Ltd., Scanpenn, Wallvik, 1250 bls. mechanical, 250 tons; Johaneson Wales & Sparre, Inc., Storvik, Norrkoeping, 1800 bls. sulphate, 304 ton, 3400 bls. sulphite, 700 tons; Mead Sales Co. Inc., Storvik, Norrkoeping, 250 bls. sulphite, 50 tons; Bulkley Dunton & Co., Storvik, ——, 1250 bls wood pulp, 253 tons; ——, Storvik, Hernosand, 1200 bls. sulphite, 200 tons; ——, Storvik, Hernosand, 1800 bls. sulphate, 300 tons; Castle & Overton, Inc., Scanstates, Wiborg, 1544 bls. wood pulp, 309 tons; Lagerloef Trading Co., Scanstates, Helsingfors, 1358 bls. sulphite, 235 tons, 640 bls. mechanical, 131 tons.

CASEIN

T. M. Duche & Sons, Coldbrook, B. Ayres, 417 bags, 55162 lbs.; D. C. Andrews & Co., Deutschland, Hamburg, 60 bags.

WOOD PULP BOARDS

Heidelbach Ickelheimer & Co., Black Heron, Rotterdam, 134 bls., 34 tons.

PORTLAND IMPORTS

WEEK ENDING FEBRUARY 4, 1933

Bulkley Dunton & Co., Ilona Siermers, ——, 5875 bls. wood pulp; Bulkley Dunton & Co., Svarten, ——, 3000 bls. wood pulp.

BOSTON IMPORTS

WEEK ENDING FEBRUARY 4, 1933

Atkinson Haserick & Co., Pr. Pierce, Genoa, 5 cs. paper; Andrews Paper Co., Black Hawk, Antwerp, 2 cs. wrapping paper; F. J. Fawcett, Black Hawk, Antwerp, 62 bls. flax waste; Smith Paper Co., Amer. Banker, London, 19 lbs. rags; Brown Bros. Harriman & Co., Amer. Banker, London, 61 bls. rags; F. S. Webster & Co., Scythia, Liverpool, 13 cs. tissue paper; G. F. Malcolm., Scythia, Liverpool 11 cs. tissue paper; International Purchasing Co., Francisco, Hull, 60 coils old rope; Johaneson Wales & Sparre, Inc., Storvik, Sundsvall, 1800 bls. sulphate, 340 tons, 500 bls. sulphite, 101 tons; Bulkley Dunton & Co., Storvik, ——, 1000 bls. wood pulp, 203 tons; ——, Storvik, Hernosand, 2250 bls. sulphite, 375 tons; ——, Storvik, Hernosand, 1800 bls. sulphate, 300 tons; Bulkley Dunton & Co., Simon von Utrecht, ——, 1250 bls. wood pulp.

WILMINGTON IMPORTS

WEEK ENDING FEBRUARY 4, 1933

Castle & Overton, Inc., Scanpenn, Wiborg, 2716 bls. wood pulp, 543 tons; Price & Pierce, Ltd., Scanpenn, Wallvik, 3000 bls. sulphite, 500 tons.

PHILADELPHIA IMPORTS

WEEK ENDING FEBRUARY 4, 1933

Lagerloef Trading Co., Scanpenn, Helsingfors, 874 bls. wood pulp, 174 tons; Jay Madden Corp., Scanpenn, Helsingfors, 14 bls. tissue paper; Pagel Horton & Co. Inc., Scanpenn, Gefle, 1000 bls. sulphite, 203 tons; Price & Pierce, Ltd., Scanpenn, Wallvik, 2100 bls. sulphite, 350 tons, 4200 bls. sulphate, 700 tons; Bulkley Dunton & Co., Scanpenn, ——, 750 bls. sulphite, 152 tons; Miami Valley Import Co., Scanstates, Gdynia, 2927 bls. wood pulp; ——, Scanstates, Kotka, 121 rolls news print; Paper Manufacturers Co., Scanstates, Kotka, 64 rolls news print, Lagerloef Trading Co., Scanstates, Kotka, 1804 bls. mechanical 360 tons; Lagerloef Trading Co., Scanstates, Helsingfors, 508 bls. mechanical, 101 tons, 640 bls. sulphite, 105 tons; ——, Scanstates, Wiborg, 9278 bls. sulphite, 1664 tons; Castle & Overton, Inc., Scanstates, Wiborg, 1073 bls. wood pulp, 214 tons; Bulkley Dunton & Co., Sorvard, ——, 2500 bls. wood pulp.

BALTIMORE IMPORTS

WEEK ENDING FEBRUARY 4, 1933

Johaneson Wales & Sparre, Inc., Storvik, Sundsvall, 1800 bls. sulphate, 304 tons, 500 bls. sulphite, 101 tons; Bulkley Dunton & Co., Storvik, ——, 1250 bls. wood pulp, 253 tons; ——, Storvik, Hernosand, 600 bls. sulphate, 100 tons; Bulkley Dunton & Co., Augsburg, ——, 1000 bls. wood pulp; Bulkley Dunton & Co., Trolleholm, 1970 bls. wood pulp; Bulkley Dunton & Co., Eknaren, ——, 2380 bls. wood pulp.

Trimbey Works To Make Witham Machines

For better than a year past George Witham Jr., the well known paper maker and inventor has been working on the perfecting of a Continuous Freeness Indicator and Recorder. Also on a type of a Consistency Regulator to control the admission of water to a Continuous Beater in order that the density of the stock in such beater will be held uniform by automatic control. Mr. Witham has these machines in successful operation in the mill of the Parker-Young Company, Lincoln, N. H. The Trimbey Machine Works, makers of Stock Control Apparatus, have purchased the building and sales rights of these two new machines.

Both machines are very simple in design, easy to install and will prove of great assistance to mills in the making of uniform papers and uniform quality. The Freeness machine is provided with a recorder which gives them a constant and true record of changes in freeness as they occur. It can be adapted for use at any desired point in the mill where a record of the freeness of the stock as it runs is desired There is no waiting to take samples and tests, the record is continuous and constant. It is a device for which the paper mills have long been seeking.

The Continuous Beater Consistency Regulator is also a simple apparatus which is installed in the beater so that as the rate of supply changes the water supply automatically is increased or reduced to maintain the proper density. This Regulator is also provided with signal lights which may be located at any desired location in the mill which will tell at a glance whether the stock is running correctly or too heavy or light.

MORE REPEAT ORDERS

A nationally known manufacturer of heavy papers, after thorough investigation, orders six Marcy Open End Rod Mills to take the place of his 35 beaters. Outstanding mills are increasing profits and improving quality by using Marcy Open End Rod Mills.

Specific inquiries are invited.

MARCY OPEN-END ROD MILLS

for Perfect Beating of Every Type of Stock

1. **Positively reduce power costs.**
2. **Absolute control under all conditions.**
3. **Maximum preservation of initial strength.**
4. **Preserve full fibre length.**
5. **Positive separation of fibre bundles.**
6. **Positively no unbeaten stock bypassed.**

Send us a sample of your untreated pulp and we will send you proof.

PAPER MILL DIVISION

The MINE and SMELTER SUPPLY COMPANY

Denver, Colorado

CLINTON STARCHES

Special Grades for Beater and Top Sizing

Manufactured by

CLINTON CORN SYRUP REFINING COMPANY

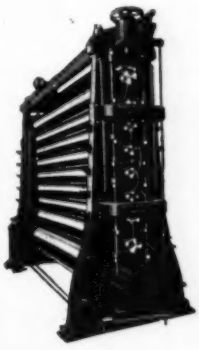
CLINTON, IOWA

QUALITY SERVICE

What You *Need* in Calender Rolls You *Find* in Farrel Rolls

THE characteristics of Farrel Rolls, which make them known throughout the paper industry as the highest standard of excellence, are the result of the care, skill and experience that govern every step in production.

Farrel Rolls contain only materials of known characteristics, selected to rigid specifications, prepared according to the proved Farrel formula of roll mixture and subjected to exacting metallurgical control.



The superior finish and accuracy of Farrel Rolls are important factors in operating performance. The smoothness of the journal surfaces, their extreme accuracy for straightness and concentricity, reduce bearing friction, create less heat and provide smoother running. Bodies are ground accurately round, straight and true, regardless of length, and those requiring crown are made with correct shape and amount of crown to insure uniform contact between the rolls in operation.

For economy, long life and maximum performance specify Farrel Rolls for your Calender Stacks.

Farrel-Birmingham Company, Inc.

50 State St., Ansonia, Conn.

Dietz Towel Interfolding Machines

also

TOILET PAPER MACHINES

For making Toilet and Paper Towel Rolls (With or without perforations)

AUTOMATIC TUBE MACHINES

For Making Wire-Stitched Toilet Tubes

Sanitary Crepe Towel Machines, Roll Tighteners, Slitting and Rewinding Machines, Drop Roll Slitting Machines, Photo Mount Beveling Machines, Rotary Card Cutting Machines, etc.

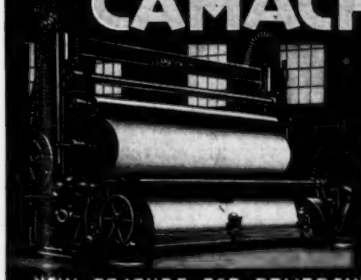
Correspondence solicited

DIETZ MACHINE WORKS

126-128 W. Fontaine Street
Cor. Waterloo St. (between Front & Second Sts.) and below Diamond St.

Phila., Penna., U. S. A.

CAMACHINE 19



HIGH SPEED WINDER FOR NEWSPRINT, BOOK, KRAFT AND BOARD MILL SERVICE. WIDTHS 100" TO 200". SPEEDS UP TO 2800 F.P.M. MAXIMUM REWIND DIAMETER 40".

NEW FEATURE FOR REVERSING WEB IN WINDING. PATENTED METHOD WINDS ROLLS WIRE SIDE OUT IF REQUIRED.

CAMERON MACHINE COMPANY 61 POPLAR ST. BROOKLYN, N.Y.

TRIMBEY MACHINE WORKS

GLENS FALLS, N. Y.

Manufacturers of

WEIGHT REGULATORS
CONSISTENCY REGULATORS
PROPORTIONING AND METERING SYSTEMS
PULP SCREENS—FLOAT VALVES

New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, February 8, 1933

Conditions in the local paper market are practically unchanged. Demand for the various standard grades of paper is only moderately active, although there are a number of inquiries around, some of which should materialize into good orders. Prices are generally holding to previously quoted levels.

The news print paper market continues quiet. Production at United States, Newfoundland and Canadian mills is being maintained in sufficient volume to take care of current requirements. Stocks at the mills are not excessive. The price situation is unsatisfactory and reports of concessions on desirable orders are frequent.

Trading in the paper board market is fairly persistent. The box board mills are now operating at from 50 to 60 per cent of capacity. Prices remain unchanged. No radical changes have been reported in the fine paper market. The coarse paper market is irregular, although kraft wrapping paper quotations are steadier.

Mechanical Pulp

The ground wood pulp market continues in a sound statistical position. Production of merchanical pulp, both in the United States and abroad, is practically keyed to consumption and there are no undue accumulations. The contract movement is seasonal. Prices remain steady.

Chemical Pulp

Although business continues quiet, steadiness generally prevails in the chemical pulp market. Prices are holding to schedule, in most instances. Imported bleached sulphite is still quoted at from $1.80 to $2.25, on dock, Atlantic ports; while domestic and Canadian bleached sulphite is selling at from $1.75 to $3.75, f.o.b. pulp mill.

Old Rope and Bagging

The old rope market is fairly steady. Demand for both domestic and imported old manila rope is mainly routine. Small mixed rope is going forward in fair volume. Prices are nominal. The bagging market is fairly active. Gunny bagging is in slightly better request, although scrap bagging and roofing bagging are rather quiet.

Rags

Paper mill interest in the domestic rag market is more noticeable than of late. Some grades of new cotton rags are moving more freely, especially No. 1 shirt cuttings. Prices are strictly nominal. The position of the imported rag market is practically unchanged and is still affected by the foreign exchange situation.

Waste Paper

The lower grades of paper stock are more buoyant now that the box board mills are beginning to expand their operations. Offerings of strictly folded news are limited. No. 1 mixed paper is firmer, due to some extent to an increased export movement to Great Britain. The better grades of waste paper are holding up well. Book stock is fairly steady.

Twine

Business in the local twine market is moderately active, although the bulk of the trading is along routine lines. Inquiries for future account are fairly numerous for the time of year. While competition for desirable orders is intense, prices are generally holding to schedule.

News of Philadelphia Trade

The Champion Coated Paper Company, Hamilton, Ohio, has supplied its local distributors, Thos. W. Price Company, The Paper House of Pennsylvania, and Garrett-Buchanan Company, with sets of boxes including its six lines of card boards for printers' use; these being the Miami Coated Blanks, Hy-Plane Blanks, Miami Coated, and Miami Coated ailroad Blanks. Under the system of distribution, however, it will be necessary for those desiring sample sets to make application to the Champion Coated Paper Company, which in turn will forward them to their distributors here.

A growing quantity of boards and of Kraft from Southern mills is being delivered in this city by motor truck, and those in the trade report that they have been able to secure quotations considerably under those from mills necessitating shipment by railroad and then a re-haul by truck in this city. While these jobbers are, of course, entirely sympathetic with the attitude of the railroads in their desire to have motor truck shipments regulated, stern necessity compels their purchase at the lowest possible figure.

Mills located on the Schuykill and the Canal above Philadelphia are interesting themselves in the proposition of the private construction of a new bridge across the Schuylkill between the present Conshohocken and Green Lane spans, at an estimated cost of $1,200,000; many property owners, however, are objecting to the proposed bridge and these were heard at the session of the Public Service Commission in City Hall during the week.

The latest type Moore and White Filter and Save-All Machine for tissue stock is being installed in the Mazer Paper Mill, Lansdowne, Pa.

Lewistrong Latex Cover Agents

A. R. Melker, sales representative in the metropolitan district of the J. P. Lewis Company of Beaver Falls, N. Y. reports having appointed as agents, the Forest Paper Company, Royal Card and Paper Company, and the Seymour Paper Company on Lewistrong Cover, the Latex content sheet.

Attractive printed sample books with specimens of the type of work it is possible to produce are available. The line consists of eight colors. The important feature in this new cover line is the use of Latex, which besides increasing the strength, folding and embossing qualities, also greatly improves the printing surface and decreases the ink consumption.

Finished or Semi-finished
STEEL CORES
FOR PAPER ROLLS
The FABRICATED STEEL PRODUCTS CO.
WHEELING, W. VA.

Perforated Metal Screens
for every purpose
also elevator buckets of all kinds; chutes; hoppers; stacks and tanks.
MITCO Products — Interlocked Steel Grating
Shur-Site Stair Treads
Armorgrids
HENDRICK MANUFACTURING CO.
50 Dundaff St., Carbondale, Pa.
Offices in Principal Cities

Appleton
Felts and Jackets
Appleton Woolen Mills, Appleton, Wisconsin

INTERNATIONAL WIRE WORKS
Fourdrinier Wires
MENASHA, WISCONSIN

"YOUR PAPER IS MADE IN YOUR BEATERS"
Dilts
MACHINE WORKS Inc. FULTON, N.Y.

Appleton Wires
are good wires
APPLETON WIRE WORKS INC. APPLETON WIS

Your Card in This Space
Will Bring Results

While in New York
don't fail to see
the new "Matador 700"
in operation
making and *printing*
700 BAGS PER MINUTE
a CORDIAL welcome awaits you
H. H. HEINRICH, INC.
200 Varick St., New York
Telephone, WAlker 5-0047

INTERNATIONAL PULP CO.
NEW YORK CITY
ASBESTINE FILLER
Reg. U. S. Patent Office
90% Retention

De Laval Steam Turbine Company
Trenton, N. J.
Steam Turbines—Catalog D . . Centrifugal Pumps—Catalog B
Centrifugal Blowers and Compressors—Catalog F
Helical Gears—Catalog R . . . Worm Reduction Gears—Catalog R
Screw and Gear Pumps—Catalog L . . Water Wheels—Catalog T
Flexible Couplings—Catalog K Address: Department 45

THE TRADE-MARK OF GOOD FELTS
The Waterbury Felt Co.
SKANEATELES FALLS, N. Y.
TRADE MARK

Made in Asten Asbestos America
DRYER FELTS
ASTEN-HILL Mfg. Co. Philadelphia

Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, February 8, 1933.

BLANC FIXE.—The blanc fixe market is fairly active. Contract shipments are moving with regularity. The pulp is still quoted at from $42.50 to $45.00 per ton, in bulk; while the powder is selling at from 3½ to 3¾ cents per pound, in barrels, at works.

BLEACHING POWDER.—Conditions in the bleaching powder market are fairly satisfactory. The contract movement is seasonal. Prices are holding to schedule, in most instances. Bleaching powder is quoted at from $1.75 to $2.00 per 100 pounds, in drums, at works.

CASEIN.—The casein market continues to mark time. Domestic standard ground is quoted at 7 cents and finely ground at 8 cents per pound. Argentine standard ground is selling at 8 cents and finely ground at 8½ cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—Some improvement was noticed in the caustic soda market. Prices are steady. Solid caustic soda is quoted at from $2.55 to $2.60; while the flake and the ground are selling at from $2.95 to $3.00 per 100 pounds, in large drums, at works.

CHINA CLAY.—The china clay market is practically unchanged. Shipments against contract are moving in fair volume. Imported china clay is quoted at from $10 to $15 per ton, ship side; while domestic paper making clay is selling at from $5 to $12 per ton, at mine.

CHLORINE.—Demand for chlorine is fairly persistent. The contract movement is well up to average. Prices are generally holding to formerly quoted levels. Chlorine is selling at $1.75 per 100 pounds, in tanks, or multi-unit cars, in ton lots, or over, at works.

ROSIN.—The rosin market is little changed. The grades of gum rosin used in the paper mills are still quoted at from $3.60 to $4.00 per 280 pounds, in barrels, at works; while wood rosin is selling at $2.60 per 280 pounds, in barrels, at southern shipping points.

SALT CAKE.—Business in the salt cake market is improving slightly. Prices are steady. Salt cake is quoted at from $13 to $14; chrome salt cake at from $12 to $13 per ton, in bulk, at works. Foreign salt cake is selling at from $13 to $14 per ton, on dock.

SODA ASH.—The soda ash market is displaying a strong undertone. Contract shipments are going forward to the paper mills in good volume. Quotations on soda ash, in car lots, at works, per 100 pounds, are as follows: in bulk, $1.05; in bags, $1.30; and in barrels, $1.43.

STARCH.—Trading in the starch market is fairly brisk. The contract movement is normal. Prices are generally holding to schedule. Special paper making starch is quoted at $2.19 per 100 pounds, in bags; and at $2.46 per 00 pounds, in barrels, at works.

SULPHATE OF ALUMINA.—Supplies of sulphate of alumina are moving into consumption at a satisfactory pace. Prices remain unchanged. Commercial grades are quoted at from $1.25 to $1.46; iron free is selling at from $1.90 to $2.05 per 100 pounds, in barrels, at works.

SULPHUR.—The sulphur market continues steady. Sulphur is quoted at $18 per long ton, on orders of 1,000 tons, or over, on yearly contracts; and at $20 per ton on any smaller quantity over that period. On spot and near by car loads, the quotation is $21 per ton.

TALC.—Most of the business transacted in the talc market during the past week was along routine lines. Domestic talc is quoted at from $16 to $18 per ton, in bulk, at eastern mines; imported talc is selling at from $18 to $22 per ton. in bags, ship side.

Market Quotations

Paper

(F. o. b. Mill)

Ledgers	6.50	@	38.00
Bonds	4.50	@	53.25
Index	6.00	@	12.00
Writings—			
Extra Superfine	6.50	@	15.00
Superfine	6.25	@	14.75
Tub sized	4.50	@	7.00
Engine sized	4.00	@	5.00
Book. Cased—			
S. & S. C.	4.25	@	5.00
M. F.	3.75	@	4.25
Coated and Enamel	5.00	@	9.00
Lithograph	5.00	@	9.00
Tissues—Per Ream—			
White No. 1	.50	@	.70
White No. 2	.45	@	.60
Anti-Tarnish M. G. only	.65	@	.70
Colored	.70	@	.90
Kraft	.65	@	.70
Manila	.55	@	.60
Manila—			
No. 1 Jute	9.00	@	9.25
No. 2 Jute	7.75	@	8.50
No. 1 Wood	4.00	@	5.25
No. 2 Wood	3.50	@	4.00
Butchers	3.37½	@	—
Fibre Papers—			
No. 1 Fibre	4.25	@	5.50
No. 2 Fibre	4.00	@	4.75
Common Bogus	1.50	@	3.00
Screenings	2.00	@	3.00
Card Middles	4.00	@	5.00
Glassine—			
Bleached, basis 25 lbs., No. 1	.09¼	@	—
No. 2	.11¼	@	—
Bleached, basis 20 lbs.	.11¼	@	—

(Delivered New York)

News, per ton—			
Roll, contract	45.00	@	—
Rolls, spot	45.00	@	—
Sheets	50.00	@	—
Side Runs	30.00	@	35.00
Kraft—			
No. 1 Domestic	4.50	@	4.75
No. 2 Domestic	2.75	@	3.00
Southern	2.50	@	2.75
Imported	2.75	@	3.50
Boards—per ton—			
News	30.00	@	32.50
Straw	29.50	@	31.50
Chip	27.50	@	30.00
Binders' Boards	62.00	@	70.00
Kraft Liner	40.00	@	45.00
Standard 85 Test Jute Liner	27.50	@	30.00
Sgl. Mla. Ll. Chip	37.50	@	40.00

(F. o. b. Mill)

Wood Pulp Boards	70.00	@	80.00

Mechanical Pulp

(On Dock, Atlantic Ports)

No. 1 Imported—			
Moist	18.00	@	20.00
Dry	19.00	@	21.00

(F. o. b Mill)

No. 1 Domestic and Canadian	14.00	@	22.00

Chemical Pulp

(On Dock, Atlantic Ports)

Sulphite (Imported)—			
Bleached	1.80	@	2.25
Easy Bleaching	1.60	@	1.75
No. 1 strong unbleached	1.35	@	1.60
Mitscherlich unbleached	1.60	@	1.75
No. 2 strong unbleached	1.25	@	1.35
No. 1 Kraft	1.25	@	1.40
No. 2 Kraft	1.10	@	1.15
Sulphate—			
Bleached	1.85	@	2.15

(F. o. b. Pulp Mill)

Sulphite (Domestic and Canadian)—			
Bleached	1.75	@	3.75
Easy Bleaching	1.75	@	1.90
News	1.40	@	1.65
Mitscherlich unbleached	2.00	@	2.25
Kraft (Domestic)	1.25	@	2.75

(Delivered Paper Mills)

Soda Bleached	2.00	@	—

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1	3.80	@	4.00
New White, No. 2	3.00	@	3.25
Silesias No. 1	3.25	@	4.00
New Unbleached	5.25	@	5.75
New Soft Blacks	2.75	@	3.00
Blue Overall	3.00	@	3.50
Fancy	1.25	@	1.50
Washables	1.00	@	1.25
Mixed Khaki Cuttings	2.50	@	3.00
Pink Corset Cuttings	2.75	@	3.25
O. D. Khaki Cuttings	3.00	@	3.25
Men's Corduroy	1.00	@	1.25
New Mixed Blacks	2.25	@	2.50

Old Rags

White, No. 1—			
Repacked	3.00	@	3.50
Miscellaneous	2.00	@	2.25
White, No. 2—			
Repacked	1.75	@	2.00
Miscellaneous	1.50	@	1.75
Thirds and Blues—			
Repacked	1.50	@	1.75
Miscellaneous	1.00	@	1.25
Black Stockings	2.00	@	2.25
Roofing Rags—			
No. 1	.53	@	.58
No. 2	.48	@	.53
No. 3	.43	@	.48
No. 4	.38	@	.43
No. 5A	.33	@	.38

Foreign Rags

New Rags

New Dark Cuttings	1.30	@	1.40
New Mixed Cuttings	1.50	@	1.60
New Light Silesias	3.00	@	3.25
Light Flannelettes	2.50	@	2.75
Unbleached Cuttings	4.50	@	5.00
New White Cuttings	4.00	@	4.25
New Light Oxfords	3.00	@	3.25
New Light Prints	1.85	@	2.25

Old Rags

No. 1 White Linens	5.25	@	5.50
No. 2 White Linens	4.50	@	4.75
No. 3 White Linens	3.25	@	3.75
No. 4 White Linens	1.75	@	2.25
No. 1 White Cotton	3.50	@	3.75
No. 2 White Cotton	2.75	@	3.25
No. 3 White Cotton	2.25	@	2.50
No. 4 White Cotton	1.40	@	1.50
Extra Light Prints	1.80	@	2.00
Ord. Light Prints	1.60	@	1.75
Med. Light Prints	1.40	@	1.55
Dutch Blue Cottons	1.35	@	1.40
French Blue Linens	1.80	@	1.90
German Blue Linens	1.70	@	1.80
German Blue Cottons	1.20	@	1.25
Checks and Blues	1.25	@	1.30
Lindsay Garments	.75	@	.80
Dark Cottons	.70	@	.75
Old Shopperies	.55	@	.60
New Shopperies	.60	@	.65
French Blues	1.25	@	1.30

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—			
Foreign	.90	@	1.00
Domestic	1.00	@	1.10
Wool Tares, light	.70	@	.80
Wool Tares, heavy	.70	@	.80
Bright Bagging	.70	@	.75
Small Mixed Rope	.50	@	.60
Manila Rope—			
Foreign	1.35	@	1.40
Domestic	1.40	@	1.50
New Burlap Cut	1.00	@	1.50
Hessian Jute Threads—			
Foreign	2.60	@	2.75
Domestic	2.80	@	3.00

Old Waste Papers

(F. o. b. New York)

Shavings—			
White Envelope Cuttings	1.70	@	1.80
Ordinary Hard White No. 1	1.55	@	1.65
Hard White No. 2	1.30	@	1.40
Soft White No. 1.	1.35	@	1.45
Flat Stock—			
Stitchless	.55	@	.65
Overissue Mag	.55	@	.65
Solid Flat Book	.50	@	.55
Crumpled No. 1	.40	@	.45
Solid Book Ledger	1.50	@	1.75
Ledger Stock	.45	@	.55
New B. B. Chips	.20	@	.25
Manilas—			
New Env. Cut	1.25	@	1.35
New Cuttings	1.00	@	1.05
Extra No. 1 old	.80	@	.90
Print	.35	@	.40
Bogus Wrapper	.30	@	.35
Container	.25	@	.30
Old Kraft Machine—			
Compressed bales	.60	@	.70
News—			
No. 1 White News	1.00	@	1.05
Strictly Overissue	.45	@	.50
Strictly Folded	.30	@	.35
No. 1 Mixed Paper	.15	@	.20

CASEIN

CASEIN-CO A BORDEN PRODUCT BRAND

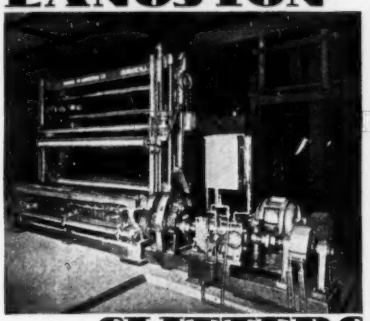
ANY GRADE ANY QUANTITY

THE CASEIN MFG. COMPANY OF AMERICA, Inc.

205 E. 42nd St. New York, N. Y.

Oldest and Largest Producers of Casein in America

LANGSTON



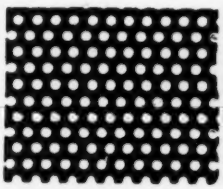
SLITTERS

The heavy-duty Langston Slitter can be had in any width, to wind any diameter. Use it as a winder or as a rewinder. Speed up to 3000 feet per minute. Makes rolls of uniform density, square-edged. Langston's Shear-Cut makes no dust—the paper is *clean-cut*, not ground apart. A catalog is yours for the asking.

SAMUEL M. LANGSTON CO., Camden, N. J.

Perforated Metal Screens

For Pulp and Paper Mills



STEEL, COPPER, BRASS, BRONZE, MONEL METAL and other Alloys punched for Centrifugal and Rotary Screens, Pulp Washers, Drainer Bottoms, Filter Plates, etc.

".065" Round

CHARLES MUNDT & SONS

63-65 FAIRMONT AVE. JERSEY CITY, N. J.

Experience has taught users of paper-making chemicals that P. M. C. products are uniform and reliable. These qualities are insured by quantity production, by control of raw materials, and by specializing in the manufacture of chemicals for the paper manufacturer.

PMC

SUPERIOR ROSIN SIZE

SATIN WHITE

INDUSTRIAL CHEMICALS

PAPER MAKERS CHEMICAL CORPORATION

KALAMAZOO, MICHIGAN

PLANTS IN ALL LARGE PAPER MAKING AREAS

PERMANENT COLORS

Browns Greens Reds Yellows

BROWNS
Oxides of Iron
Turkey Umbers

GREENS
Chromic Oxides
Guignet's Green

REDS
All types and shades of Oxides of Iron

YELLOWS
Ochres
Iron Hydroxides

Asbestines and Talcs for Fillers

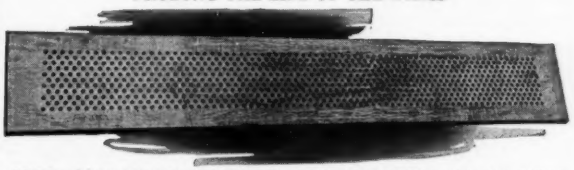
C. K. WILLIAMS & CO.

EASTON, PA.

"M & W"

WOOD SUCTION BOX COVERS

PROLONG THE LIFE OF THE WIRES



ONLY CAREFULLY SELECTED, CLOSE-GRAINED MAPLE USED. DRILLED PERFECTLY SMOOTH. FREE FROM IMPERFECTIONS.

THE MOORE & WHITE COMPANY

Paper Machinery Builders Philadelphia, U. S. A.

THE CLARK-AIKEN CO.

Successors to
H. C. Clark & Son Machine Co.

PAPER MILL MACHINERY

LEE, MASS.

Revolving Paper Cutters—Rag Cutters—Cylinder Paper Machines—Washing and Beating Engines—Chilled Iron and Paper Calenders—Fan and Stuff Pumps—Engine Roll Bars and Bed Plates—
Cylinder Molds—Marshall Drives—Slitters and Rewinders—Reels—Dryers with Improved Packing Boxes—Wet Machines—Gun Metal and Rubber Rolls—Rolls Reground.

The HARRINGTON & KING PERFORATING CO.

5652 Fillmore St.
Chicago, Ill.

New York Office
114 Liberty St.

PERFORATED METALS

Screens of All Metals

For use in Pulp and Paper Mills

Twines
(F. o. b. Mill)

Cotton—			
B. C., 18 basis	.30	@	.32
No. 1	.20	@	.22
No. 2	.19	@	.20
No. 3	.17	@	.18
A. Italian, 18 basis	.36	@	.37
Finlaned Jute—			
Dark, 18 basis	.18	@	.20
Light, 18 basis	.20	@	.22
Jute Wrapping, 3-6 Ply—			
No. 1	.15½	@	.16½
No. 2	.11¾	@	.12¾
Tube Rope—			
4-ply and larger	.10¾	@	.10¾
Fine Tube Rope—			
4-ply	.12¼	@	.12¾
3-ply	.13¼	@	.13¾
2-ply	.14¼	@	.14¾
Paper Makers Twine			
Balls	.09¼	@	.11¼
Box Twine, 2-3 ply	.11¼	@	.12¼
Jute Rope	.09	@	.10
White Hemp	.12¼	@	.12¾
Java Sisal—			
No. 1 Basis	.10	@	—
No. 2 Basis	.09	@	—
New Zealand Sisal	.10	@	—
Sisal Lath Yarn—			
No. 1	.12	@	.14
No. 2	.10	@	.12
Manila Twine	.23	@	.28

CHICAGO

Paper
(F. o. b. Mill)

Rag Bond	.30	@	.53¼
Water Marked Sulphite Bond	.09	@	.12
Sulphite Bond	.04	@	.11
Superfine Writing	.18	@	.24
No. 1 Fine Writing	.14	@	.18
No. 2 Fine Writing	.12	@	.14
No. 3 Fine Writing	.07	@	.18
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05¾	@	.06½
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07½	@	.12
Coated Label	.07½	@	.10
No. 1 Manila	.04¼	@	.05¾
No. 1 Fibre	.04¾	@	.05¼
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.03¼	@	.03¾
No. 1 Kraft	3.50	@	4.50
Southern Kraft	2.62½	@	—
No. 2 Kraft	2.62½	@	—
Wood Tag Boards	.04¼	@	.06¼
Sulphite Screenings	.03	@	.03½
Manila Tissue	.07	@	.07¼
White Tissue	.07¼	@	.07½
(Delivered Central Territory)			
News, per ton—			
Rolls, contract	45.00	@	—
Sheets	50.00	@	—
Boards, per ton—			
Plain Chip	27.50	@	—
Solid News	30.00	@	—
Manila Lined Chip	37.50	@	—
Patent coated	47.50	@	—
Container Lined—			
85 Test	50.00	@	55.00
100 Test	55.00	@	60.00

Old Papers
(F. o. b. Chicago)

Shavings—			
No. 1 White Envelope cuttings	1.50	@	1.55
No. 1 Hard White	1.40	@	1.45
No. 1 Soft White	1.00	@	1.10
Ledger & Writings	.55	@	.60
Solid Books	.45	@	.50
Blanks	1.00	@	1.05
Krafts	.70	@	.80
New Kraft Cuts	1.15	@	1.25
Manila Env. Cuts	1.25	@	1.30
Ex. No 1 Manila	.90	@	1.00
Print Manila	.30	@	.40
Overissue News	.45	@	.50
Old Newspapers—			
No. 1	.45	@	.50
Mixed Papers—			
No. 1	.25	@	.30
Roofing Stocks—			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper
(F. o. b. Mill)

Bonds	.04	@	.40
Ledgers	.06	@	.40
Writings—			
Superfine	.10	@	.18
Extra Fine	.15	@	.26
Fine	.15	@	.26
Fine, No. 2	.10	@	.25
Fine No. 3	.05½	@	.18
Book, M. F.	.04¾	@	.07
Book, S. S. & C.	.05	@	.07½
Book, Coated	.06	@	.16
Coated Lithograph	.06	@	.11
Label	.07	@	.11
No. 1 Jute Manila	.06	@	.09
Manila Sul., No. 1	.03	@	.05
Manila No. 2	.03	@	.04
No. 1 Kraft	.05¼	@	.06
No. 2 Kraft	.03¾	@	.04¼
Southern Kraft No. 1	—	@	.03¾
Southern Kraft No. 2	—	@	.02¼
Common Bogus	.03	@	.04
(Delivered Philadelphia)			
News Print Rolls	46.00	@	—
Straw Board	32.00	@	—
News Board	30.00	@	—
Chip Board	30.00	@	—
Wood Pulp Board	70.00	@	80.00
Binder Boards—			
No. 1, per ton	73.00	@	75.00
No. 2, per ton	62.00	@	65.00
Carload lots	60.00	@	65.00
Tarred Felts—			
Regular	52.25	@	54.25
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.95	@	2.10
Best Tarred, 2-ply (per roll)	1 50	@	1.60
Best Tarred, 3-ply	2.00	@	2.25

Domestic Rags (New)
(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.03½	@	.04
New White, No. 2	.02½	@	.04
Light Silesias	.02½	@	.03
Silesias, No. 1	.03	@	.03½
Black Silesias, soft	.02½	@	.03
New Unbleached	.05	@	.05½
Washable, No. 1	.01	@	.01½
Blue Overall	.03	@	.03½
Cottons—According to grades—			
Washable, No. 2	.01	@	.02
New Blue	.01	@	.02
Fancy	.01½	@	—
New Black Soft	.02	@	.03
New Light Seconds	.01	@	.02
New Dark Seconds	1.50	@	1.75
Khaki Cuttings—			
No. 1 O.D.	.03	@	.03½
No. 2 Mixed	.02½	@	.03
Corduroy	.02	@	.02½
New Canvas	.03½	@	.04
New Black Mixed	.02½	@	.03

Domestic Rags (Old)

White No. 1—			
Repacked	2.50	@	3.00
Miscellaneous	1.75	@	2.00
M. G.	3.00	@	3.50
Thirds and Blues—			
Miscellaneous	1.00	@	1.25
Repacked	1.50	@	1.75
Black Stockings (Export)	2.00	@	3.50
Roofing Stock—			
Foreign No. 1	.50	@	.75
Repacked	.70	@	.80

Bagging
(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.25	@	1.50
Domestic	1.50	@	—
Manila Rope	2.00	@	2.25
Sisal Rope	1.25	@	1.50
Mixed Rope	1.00	@	1.10
Scrap Burlaps—			
No. 1	1.25	@	1.50
No. 2	.80	@	1.00
Wool Tares, heavy	2.75	@	—
Mixed Strings	1.15	@	1.25
No. 1 New Light Burlap	2.25	@	2.50
New Burlap Cuttings	2.00	@	2.25

Old Papers
(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	1.60	@	1.70
No. 2 Hard White	1.50	@	1.60
No. 1 Soft White	1.40	@	1.45
No. 2 Soft White	1.10	@	1.15
No. 1 Mixed	.50	@	.60
No. 2 Mixed	.40	@	.50
Solid Ledger Stock	1.00	@	1.10
Writing Paper	.65	@	.70
No. 1 Books, heavy	.55	@	—
No. 2 Books, light	.40	@	—
No. 1 New Manila	1.10	@	1.15
No. 1 Old Manila	.60	@	.65
Print Manila	.40	@	.45
Container Manila	.35	@	.40
Old Kraft	.85	@	.90
Common Paper	.17½	@	.25
No. 1 Mixed Paper	.20	@	.30
Straw Board, Chip	.20	@	.30
Binders Board Chip	.20	@	.30
Corrugated Board	.35	@	.45
Overissue News	.40	@	.50
Old Newspaper	.30	@	.35

BOSTON

Paper
(F. o. b. Mill)

Ledgers—			
Sulphite	.06	@	.12½
Rag Content	.12	@	.30
All Rag	.36	@	.52½
Bonds—			
Sulphite	.05¾	@	.11¾
Rag Content	.12	@	.30
All Rag	.36	@	.65
Writings	.06½	@	.20
Superfines	.11	@	.31
Book, Super	.06	@	.09
Book, M. F.	.05¾	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06½
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	—	@	.04¾
No. 2 Kraft	—	@	.02½
(F. o. b. Boston)			
Southern Kraft	.02¾	@	—
(F. o. b. destination in carload lots, f. o. b. mill in less than carload lots.)			
Common Bogus	.02	@	.02¾
(Delivered New England points)			
News Print, rolls	44.50	@	—
Straw Board, rolls	.009	—	@35.00
Straw Board in Sheets, basis 35s to 70s	—	@	40.00
Filled News Board	—	@	30.00
Chip Board	27.50	@	—
Chip Board (Creasing)	27.50	@	30.00
Single Manila Lined Chip	—	@	37.50
Single White, Patent Coated News Board—Bender	45.00	@	55.00
Wood Pulp Board	70.00	@	75.00
Binder Boards	62.00	@	75.00

Old Papers
(F. o. b. Boston)

Shavings—			
No. 1 Soft White	1.40	@	1.60
No. 1 Old Manila	.50	@	.60
No. 1 Mixed	.60	@	.70
No. 2 Mixed	.40	@	.50
Solid Ledger Books	1.20	@	1.40
Overissue Ledger Stock	1.15	@	1.30
Mixed Ledgers	.60	@	.70
No. 1 Books, heavy	.55	@	.65
No. 1 Books, light	—	@	.30
Crumpled Stitchless Book Stock	.50	@	.60
Manila Env. Cuttings	1.25	@	1.30
No. 1 Old Manila	.50	@	.60
White Blank News	.80	@	.85
No. 1 Kraft	.65	@	.70
Manila	.80	@	.90
No. 1 Mixed Papers	.12½	@	.15
Print Manila	.30	@	.40
Overissue News	.35	@	.45
Old Newspapers	.25	@	.30
Box Board, Chip	.17½	@	.20
Corrugated Boxes	—	@	.20
Screening Wrappers	.25	@	.32½

Bagging
(F. o. b. Boston)

Gunny No. 1—			
Foreign	.95	@	1.00
Domestic	.60	@	.70
Manila Rope—			
Foreign	1.37½	@	1.42½
Domestic	—	@	1.60
Transmission Rope	—	@	.90
Mixed Strings	.25	@	.30
Jute Rope	—	@	.75
Jute Carpet Threads	.25	@	.30
Bleachery Burlap	1.75	@	2.00
Scrap Burlap	.50	@	.75
No. 1 Scrap Burlap	.65	@	.75
Scrap Sisal	.80	@	—
Scrap Sisal for shredding	—	@	.90
Wool Tares, heavy	.65	@	.75
New Burlap Cutting	.75	@	.90
Australian Wool Pouches	1.75	@	2.00
Heavy Baling Bagging	.90	@	1.10
Paper Mill Bagging	.40	@	.50
Bagging No. 2	.20	@	.25
No. 1 Burlap	1.75	@	2.00

Domestic Rags (New)
(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints	—	@	.01½
New White No. 1	.03¾	@	.04
New White No. 2	.02¾	@	.03¼
Silesias No. 1	—	@	.03
New Black Silesias	.02½	@	.02¾
New Unbleached	.05	@	.05¼
Fancy	—	@	.02½
Washable	—	@	.01¾
Cottons—According to grades—			
Blue Overalls	—	@	.03¾
New Black, soft	.04	@	.04½
Khaki Cuttings	.03	@	.03½
O. D. Khaki	.03½	@	.03¾
Corduroy	.02¾	@	.03
New Canvas	—	@	.05
B.V.D. Cuttings	.04	@	.04¼

Domestic Rags (Old)
(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	3.00	@	3.50
Miscellaneous	1.50	@	1.75
White No. 2—			
Repacked	.02¾	@	.02½
Miscellaneous	.02	@	.02¼
Twos and Blues	.90	@	1.00
Thirds and Blues—			
Repacked	.75	@	.85
Miscellaneous	.70	@	.75
Black Stockings	2.00	@	2.25
Roofing Stock—			
No. 1	.35	@	.40
No. 2	.30	@	.35
No. 3	.25	@	.30

Foreign Rags
(F. o. b. Boston)

Dark Cottons	.50	@	.60
New No. 1 White Shirt Cuttings	3.75	@	4.00
Dutch Blues	1.25	@	1.50
New Checks & Blues	2.25	@	2.50
Old Fustians	—	@	.75
Old Linsey Garments	.55	@	.65

TORONTO

Paper
(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.09¾	@	—
No. 2 Sulphite	.07½	@	—
No. 1 Colored	.09¼	@	—
No. 2 Colored	.08½	@	.10½
Ledgers (sulphite)			
Ledgers, No. 1	.34½	@	—
Ledgers, No. 2	.25½	@	—
Writing	.09	@	.09½
Book—			
No. 1 M. F. (Carloads)	6.20	@	—
No. 3 M. F. (Carloads)	5.70	@	—
No. 4 M. F. (carloads)	4.75	@	—
No. 1 S. C. (carloads)	7.15	@	—
No. 3 S. C. (carloads)	6.20	@	—
No. 4 S. C. (carloads)	5.20	@	—
No. 1 Coated and Litho	12.50	@	—
No. 2 Coated and Litho	10.50	@	—
No. 3 Coated and Litho	10.00	@	—
Coated tinted	14.00	@	—
Wrapping—			
Rag Brown	4.40	@	—
White Wrap	2.00	@	—
"B" Manila	4.90	@	—
No. 1 Manila	5.40	@	—
Fiber	5.40	@	—
Kraft, M. F.	5.75	@	—
Kraft No. 2	5.40	@	—

(F.O.B. Cars Toronto)

News, per ton—			
Rolls (contract)	45.50	@	—
Sheets	50.50	@	—

Pulp
(F. o. b. Mill)

Ground Wood	18.00	@	20.00
Sulphite easy bleaching	40.00	@	—
Sulphite, news grade	38.00	@	—
Sulphite, bleached	48.00	@	58.00
Sulphate	50.00	@	—

Old Waste Paper
(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	1.80	@	—
Soft White	1.40	@	—
White Blk. News	1.25	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	.90	@	—
Light and Crumpled Book Stock	.80	@	—
Ledgers and Writings	1.00	@	—
Manilas—			
New Manila Cut	1.25	@	—
Printed Manilas	.55	@	—
Kraft	1.75	@	—
News and Scrap—			
Strictly Overissue	.50	@	—
Strictly Folded	.50	@	—
No. 1 Mixed Paper	.40	@	—

Domestic Rags
(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.09½	@	.10
Fancy Shirt Cuttings	.06	@	.06¼